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Minimum DB
Maximum DB
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                                                                                                                                        Database
                                                                                                                                                                                                            Post-processing: Minimum Match 0%
                                                                                                                                                                                                                                                                                              Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                    Searched:
                                                                                                                                                                                                                                                                                                                                                                                    Scoring table:
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seq length: 2000000000
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1: geneseqp1980s:*
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-612-162A-1
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Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                        VVARSMGGKEDLIWELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GenCore version 5.1.6 Copyright (c) 1993 - 2005 Compugen
                                               geneseqp1980s:*
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              geneseqp2003as:*
geneseqp2003bs:*
geneseqp2004s:*
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2005, 12:28:13; Search time 97.25 Seconds (without alignments) 67.608 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                  386760381 residues
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	ហ	4	ω	N	_	NO.	Result
8	86	86	86	86	86	86	96	86	96	96	96	96	96	86	96	86	86	86	86	96	98	86	86	86	score	
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	Macch	Query
869	698	698	698	869	869	869	698	698	696	679	679	679	679	679	665	646	645	643	575	539	371	220	200	17	Length	Query
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ADH34559	ADF74800	ADF74796	ADD45282	ABP72819	AAY50717	AAW54354	AAR66492	AAR12499	AAP70384	ADL24413	ADL70732	ADK15869	ADH89360	ABP72820	AAU02937	AAU02938	ABM83783	ABM83778	ABR82321	AAU02980	ADL70790	ADH89432	ADP30379	ADG46075	LD	•
Adh34559 Human tra	Adf74800 Human NOV	Adf74796 Human NOV	Add45282 Human Pro	Abp72819 Human tra	Aay50717 Human ser	Aaw54354 Serotrans	Aar66492 Human tra	Aar12499 Human tra	Aap70384 Sequence	Adl24413 Human tra	Adl70732 Human tra	Adk15869 Mature hu	Adh89360 Human tra	Abp72820 Human tra	Aau02937 Angiotens	Aau02938 Angiotens	Abm83783 Human dia	Abm83778 Human dia	Abr82321 Human met	Aau02980 Angiotens	Adl70790 Transferr	Adh89432 Human tra	Adp30379 Human sec	Adg46075 Human CDT	Description	•

45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26
71	71	71	71	71	75	75	76	76	76	86	86	86	86	86	86	86	86	86	86
82.6	82.6	82.6	82.6	82.6	87.2	87.2	88.4	88.4	88.4	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
708	708	708	708	689	676	676	704	685	685	1418	1418	1410	1410	1074	698	698	869	869	869
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AAW86022	AAW57318	AAW09343	AAR71037	AAY49270	ADL24458	ADL70764	ADP21260	ADL24462	ADL70768	ABU04138	AAU32831	ABU04139	AAW07622	AAW07621	ADP21259	ADL24412	ADL70731	ADK15868	ADH89359
Aaw86022	Aaw57318	Aaw09343	Aar71037	Aay49270	Ad124458	Ad170764	Adp21260	Ad124462	Ad170768	Abu04138	Aau32831	Abu04139	Aaw07622	Aaw07621	Adp21259	Ad124412	Ad170731	Adk15868	Adh89359
Bovine la	Bovine la	Bovine la	Draculin.	Lactoferr	Rabbit tr	Rabbit tr	Bovine tr	Bovine tr	Bovine tr	Human exp	Novel hum	Human exp	LDLR/TF c	LDLR/TF c	Human tra				

## ALIGNMENTS

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RESULT 2
ADD303793
ID 30793
ID 30793
ID 30793
AX ADD303
XX ADD30
XX CADD3
XX CYLC
CACC
XX CYLC
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Matches 17
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29-AUG-2002
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               28-AUG-2003;
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cancer; inflammatory; immune;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human secreted
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2002US-0406576P
2002US-0406588P
2002US-0406618P
2002US-0406618P
2002US-0406611P
2002US-0406611P
2002US-0406616P
2002US-0406642P
2002US-0406646P
2002US-0406646P
2002US-0406655P
2002US-0410946P
2002US-0410947P
2002US-0410947P
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2002US-0410949P
2002US-0410957P
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Immunosuppressive; Antibacterial; human secreted protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              #1146
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2.8e-07;
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RESULT 3
ADH89432
ID ADH8
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AC ADH8

ADH89432

standard; protein; 220

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Best Local
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Pierce K, Wand
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17-SEP-2002
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18-APR-2003
18-APR-2003
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18-APR-2003
18-APR-2003
19-MAY-2003
02-MAY-2003
03-JUL-2003
                                                                                                                                                 The present invention relates to an isolated nucleic acid molecule encoding a polypeptide which is believed to be cytostatic, antiinflammatory, immunosuppressive, antibacterial and virucidal. The composition and methods are useful for diagnosing, preventing and treating diseases such as proliferative (e.g. cancer), inflammatory, immune, metabolic, genetic, bacterial and viral diseases. The present sequence represents a human secreted protein. The present available on WIPOWEB and is not in the specification.
                                                                                                                                                                                                                                                                                                                        New nucleic acid molecule for diagnosing, preventing such as proliferative (e.g. cancer), inflammatory, genetic, bacterial and viral diseases.
                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                            Claim 1; SEQ ID NO 2377; 428pp; English.
                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2004-348438/32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (FIVE-)
                                                          Local Similarity nes 17; Conserv
 124
                         1 VVARSMGGKEDLIWELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FIVE
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Wang
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2002US-0411052P.
2002US-0411052P.
2002US-04111082P.
2002US-0411111P.
2002US-0463700P.
2003US-0463716P.
2003US-0467199P.
2003US-0467203P.
2003US-0467203P.
2003US-0467230P.
2003US-0471336P.
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2003US-047848P.
2003US-047869P.
2003US-0478689P.
2003US-0485323P.
2003US-0485324P.
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2003US-048699P.
2003US-0493341P.
2003US-0493377P.
                                                             Conservative
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g Y, Wong JGP,
                                                                          100.0%;
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MM, Kothakota S, Haishan L,
ong JGP, Wu G, Zhang H;
 140
                             17
                                                             0
                                                           Score 86; DB 8; Pred. No. 4.2e-06; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INC
                                                                                                                                                                                                                                                                                                                                        preventing or treating diseases ammatory, immune, metabolic,
                                                                                        Length 200;
                                                             Indels
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RESULT 4
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AC ADL7
XC ADL7
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Best Local 9
                                                                                                                                                                                                                                                                                                                                         antiparasitic, immunosuppressive or antiarthritic activity. In addition, the sequences disclosed may be useful for gene therapy. The fusion protein is useful for preparing a composition for treating a disease or disease symptom in a patient for example septic shock, endotoxic shock, cachexia syndromes associated with bacterial, viral or parasitic infections, neoplasm, autoimmune disease, arthritis or adverse effects associated with treatment for preventing graft rejection. The present sequence is that of a protein which was used in the exemplification of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       transferrin protein exhibiting reduced glycosylation fused to at one antibody variable region. The invention may be useful for the development of compounds with cytostatic, antibacterial, virucide
Transferrin N-domain protein,
                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New fusion protein comprising a transferrin protein exhibiting reduced glycosylation fused to at least one antibody variable region, useful for preparing a composition for treating e.g., septic shock, neoplasm or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           30-AUG-2001; 2001US-0315745P.
30-NOV-2001; 2001US-0334059P.
30-AUG-2002; 2002US-00231494.
30-AUG-2002; 2002US-0406977P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              viral infection; parasitic infection; neoplasm; autoimmune disease; arthritis; graft rejection; pREX0080; mTF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               fusion protein; transferrin protein; glycosylation; antibody variable region; cytostatic; antibacterial; virucide; antiparastic; immunosuppressive; antiarthritic; gene therapy; septic shock; endotoxic shock; cachexia syndrome; bacterial in viral infection; parastic infection; neoplasm; autoimmune dis
                               03-JUN-2004
                                                                                             ADL70790 etandard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Example 2; SEQ ID NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sadeghi H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       04-DEC-2003
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                                                                                                                                                                                                                                                                                                                               sequence is th
the invention.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10-MAR-2003; 2003US-00384060
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       invention relates to
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2004-022093/02.
DB; ADH89431.
                                                                                                                                                                                                    1 VVARSMGGKEDLIWELL 17
                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                  220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       disease.
                                                                                                                                                                                                                                     Conservative
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                             (first entry)
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                                                                                           protein; 371
                                                                                                                                                                                                                                                  100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      76; 82pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Turner
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a novel fusion protein which comprises
                                                                                                                                                                                                                                   0
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Pred. No.
 OI DES
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                                                                                                                                                                                                                                     Mismatches
 63
                                                                                                                                                                                                                                                    4.7e-06;
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least
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CC blood: The modified fusion proteins are useful in diagnosis, prognosis, and disorders of haematopoietic cells (e.g., leukopenia, neutropenia, anaemia con disorders of haematopoietic cells (e.g., leukopenia, neutropenia, anaemia con anabylaxis, Igs-mediated allergic reactions such as allergic asthma, inflammatory conditions e.g., inflammation associated with concernation (e.g., septic shock, sepsis), ischaemia-reperfusion injury, confection (e.g., septic shock, sepsis), ischaemia-reperfusion injury, confittions e.g., inflammation associated with consphritis, Crohn's disease, multiple sclerosis, respiratory disorders (asthma and allergy), gastrointestinal disorders (inflammatory bowel conditions experies (e.g., gastric, ovarian, lung, bladder), CNS disorders (multiple sclerosis, stroke, traumatic brain injury, neurodegenerative disorders such as Parkinson's disease, Alzheimer's disease), etc. The continuous experient is also useful for treating monoclonal gammopathy of undetermined significance (MGUS), Waldenstrom's disease, plasmacycomas, cantifungal immune responses, antiparastitic immune responses, etc. The continuous experient is also useful for treating monoclonal gammopathy of converting or treating infections of joints, bones, skin, etc. The fusion protein is also useful for treating or stimulating wound repair, for converting or treating or treating wound repair, for confirm the treating or treating or preventing thrombosis, myocardial confirmation, a system of confirmation, and confirmation of populate display for generating peptide sequences uses the N-domain of Tf incorporated into the pill protein sequence was used to illustrate this
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     serum half-life or serum stability. Preferred fusion proteins include those modified so that the Tf moiety exhibits no or reduced glycosylation, iron binding and/or Tf receptor binding. The transferrin fusion proteins are useful for treating, preventing or ameliorating disorders or diseases of endocrine system, nervous system, immune system respiratory system, cardiovascular system, diseases and/or disorders relating to cell proliferation, and/or diseases or disorders relating to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Novel library containing several fusion proteins each of which comprises first transferrin polypeptide fused to at least one second peptide, useful for screening for transferrin fusion protein having the particular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30-AUG-2002; 2002US-0406977P
10-MAR-2003; 2003US-00384060
09-JUL-2003; 2003US-0485404P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Immunosuppressive; Haemostatic; Antiallergic; Antiasthmatic; Dermatological; Antiinflammatory; Antibacterial; Vasotropic; Neuroprotective; Cytostatic; Cerebroprotective; Vulnerary; Antiparkinsonian; Nootropic; Cardiant; Antianaemic; Antiatherosclerotic; Thrombolytic; Anticoagulant; Gastrointestinal; Respiratory; transferrin; Tf; transferrin fusion protein; Tf fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present invention relates to a library (I) of modified fusion proteins of transferrin (Tf) and therapeutic proteins with increased
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N-PSDB; ADL70789
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                                                                      scaffold.
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                                                                                                                                                                                                        inhibitor 1C, cellular tumour antigen P53, and vascactive intestinal polypeptide receptor 2. The polypeptides and their associated nucleic acids are useful for identification of variant sequences and detection of candidate compounds capable of binding the molecules. The sequences of the invention can be used in the treatment and diagnosis of various disorders including cardiovascular diseases such as arteriosclerosis, myocardial infarction and coronary arterial thrombosis, renal diseases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Angiotensin converting enzyme splice variant; ACEV; interleukin 6; granulocyte colony stimulating factor receptor; glucagon; hypertrophy; platelet-derived endothelial cell growth factor; cardiovascular disease; cellular tumour antigen P53; cyclin-dependent kinase inhibitor 1C; vasoactive intestinal polypeptide receptor 2; arteriosclerosis; cancer; myocardial infarction; coronnay arterial thrombosis; renal disease; diabetic nephropathy; muscular disease; immune disorder; sarcoidosis; multiple sclerosis; immune complex nephritis; deep vein thrombosis;
   Sequence 539
                                                          such as diabetic nephropathy, muscular diseases such as hypertrophy, immune disorders such as immune complex nephritis, multiple sclerosis, cancer, sarcoidosis, nonarcoidottic pulmonary granulomatous diseases su as asbestosis and vascular pathologies involving an endothelial abnormality such as deep vein thrombosis
                                                                                                                                                                                                                                                                                                                                                                                                                                   The sequence represents an angiotensin converting enzyme splice variant (ACEV) polypeptide. The polypeptides of the invention include variants of granulocyte colony stimulating factor receptor, glucagon, interleukin 6, platelet-derived endothelial cell growth factor, cyclin-dependent kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Novel alternative splicing variants e.g. variant of angiotensin converting enzyme (ACEV), useful in identifying candidate compounds capable of binding to the variant and to detect anti-variant antibodies.
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10-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 4;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fig 80;
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                                                                                 polynucleotides. The human MEPR polypeptides, polynucleotides and modulators are useful for diagnosing, treating or preventing disorders associated with aberrant expression of MEPR, particularly cell proliferative disorders (e.g. arteriosclerosis, atherosclerosis, cirrhosis, hepatitis, paroxysmal nocturnal hemoglobinuria, polycythemia vera, psoriasis, primary thromobocytopenia or cancer), developmental disorders (e.g. renal tubular acidosis, anemia or mental retardation), neurological disorders (e.g. Alzheimer's disease, Parkinson's disease or epilepsy), autoimmune/inflammatory disorders (e.g. ANDS, allergies, asthma, autoimmune/inflammatory disorders (e.g. ANDS, allergies, disbetes mellitus, glomerulonephritis, Goodpasture's syndrome, gout, Graves' disease, Hashimoto's thyroiditis, irritable bowel syndrome, multiple sclerosis, osteoarthritis, corteoprosis, pancreatitis, Reiter's syndrome.
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18-JAN-2002;
19-MAR-2002;
10-MAY-2002;
syndrome, rheumatoid arthritis, Sjogren's syndrome, uveitis), bacterial, fungal, parasitic, protozoan or helminthic infection polynucleotides encoding MEPR are useful for creating transges
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 1; Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New human metalloproteins and polynucleotides, useful for diagnosing treating or preventing autoimmune or inflammatory disorders (e.g. All allergy or anemia), multiple sclerosis, osteoarthritis, cancer or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2003-598523/56.
N-PSDB; ACF35812.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEPR; metalloprotein; anti-HIV; antiallergic; antiinflammatory; human; antianemic; antiparkinsonian; nootropic; anticonvulsant; cytostatic; antiarteriosclerotic; antiasthmatic; immunosuppressive; antithyroid;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           invention relates to novel human metalloproteins (MEPR) and encoding
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M, Chien D,
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; 2002US-0350701P.
; 2002US-0366059P.
; 2002US-0379907P.
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Jin P, Chawla NK, Yue
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The invention relates to novel diagnostic and therapeutic polynucleotides selected from one of the 2722 sequences defined in the specification. A polynucleotide of the invention may have a use in gene therapy. The human diagnostic and therapeutic polynucleotides (dithp) or polypeptides may be used to diagnose a particular condition, disease or disorder associated with human molecules, e.g. cell proliferative disorders, autoimmune/inflammatory disorders, gastrointestinal disorder, endocrine disorder, neurological disorders, gastrointestinal disorders, or infections caused by virus, bacteria, fungi or parasite. The dithp molecules may also be used in genetic mapping, in identifying individuals from minute biological samples, in detecting single nucleotide polymorphisms, as molecular weight markers, and for somatic or germline gene therapy. The present sequence data for this pattent is not represented in the printed specification, but was obtained in electronic format directly
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Best Local S
Matches 17
                                                                                                                                                                                                                                                                                                                                                                                                                                   Stevens KA,
Peralta CH,
                                                                                                                                                                                                                                                                                   New diagnostic and therapeutic polynucleotides and polypeptides, useful in diagnosing a condition, disease or disorder associated with human molecules, e.g. autoimmune or inflammatory disorders, in gene therapy or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gene therapy; human diagnostic and therapeutic polynucleotide; dithp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human diagnostic and therapeutic pprotein SEQ ID NO:4027
                                                                                                                                                                                                                                                                                                                                                WPI; 2004-329368/30.
N-PSDB; ACN42430.
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                                                                                                                                                                                                                                         Claim 27; Page; 190pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12-SEP-2002; 2002US-0410259P
12-SEP-2002; 2002US-0410260P
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Barthshorne TA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (INCY-) INCYTE CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12-SEP-2003; 2003WO-US028227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          model human disease. Sequences ABR82316-323 represent the human MEPR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               147
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VVARSMGGKEDLIWELL 163
                                                                                                                                                                                                                                                                                                                                                                                                        Delegeane AM, Panesar IS, Banville SC, Red, Blanchard JL, Panzer SR, Wang X, Au AP, Anderson SB, Rioux P, Shen EJ, Wu MC, St. Spiro PA, Stewart EA, Wingrove J, Vitt UA, ng M, Policky JL, Hurwitz BL, Ma Y, Jackson
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                                                                                                                                                                                                                                                                                                                                                                                            Policky JL,
, Suarez CJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  yht RJ, Bruns C
Suchorolski MT,
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Pred.
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                                                                                                                                                                                                                                                                                                                                                                                                                                      Stuve LL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gerstin EH;
                                                                                                                                                                                                                                                                                    gene therapy or
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                                                                                                                                                                                                                                                                                                                                                                                                                        Kirton ES;
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The invention relates to novel diagnostic and therapeutic polynucleotides selected from one of the 2722 sequences defined in the specification. A polynucleotide of the invention may have a use in gene therapy. The human diagnostic and therapeutic polynucleotides (dithp) or polypeptides may be used to diagnose a particular condition, disease or disorder associated with human molecules, e.g. cell proliferative disorders, autoimmune/inflammatory disorder, developmental disorder, endocrine disorder, neurological disorders, developmental disorders, or infections caused by virus, bacteria, fungi or parasite. The dithp molecules may also be used in genetic mapping, in identifying individuals from minute biological samples, in detecting single nucleotide polymorphisms, as molecular weight markers, and for somatic or germline gene therapy. The present sequence represents a dithp protein of the invention. Note: The sequence data for this patent is not represented in the printed specification, but was obtained in electronic format directly from MIPO at www.wipo.int/pct/en/sequences/listing.htm
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Mooney EM, Derc,
Stevens KA, Blancharo C.
Stevens CH, Anderson SB, Riou.,
I Peralla CH, Anderson PA, Stewart EP
Lagace RE, Spiro PA, Stewart EP
Kwong M, Policky JL, Hu
Call X, Suarez CJ;
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12-SEP-2002; 2002US-0410260P
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   in gene mapping
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Page; 190pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Wright RJ, Bruns CM, Marjanovic MM, Shen F;
TA, Suchorolski MT, Altus CM, Pitts SJ, Elder LV;
Delegeane AM, Panesar IS, Banville SC, Reddy TP;
Blanchard JL, Panzer SR, Wang X, Au AP, Gerstin EH;
Anderson SB, Rioux P, Shen EJ, Wu MC, Stuve LL;
Spiro PA, Stewart EA, Wingrove J, Vitt UA, Kirton ES
SM, Policky JL, Hurwitz BL, Ma Y, Jackson JL, Gietz
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Pred. No. 1.5e-05;
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Best Local S
Matches 17
                                          inhibitor 1C, cellular tumour antigen P53, and vasoactive intestinal polypeptide receptor 2. The polypeptides and their associated nucleic acids are useful for identification of variant sequences and detection candidate compounds capable of binding the molecules. The sequences of the invention can be used in the treatment and diagnosis of various disorders including cardiovascular diseases such as arteriosclerosis, myocardial infarction and coronary arterial thrombosis, renal diseases such as diabetic nephropathy, muscular diseases such as hypertrophy, immune disorders such as immune complax nephritis, multiple sclerosis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Angiotensin converting enzyme splice variant; ACEV; interleukin 6; granulocyte colony stimulating factor receptor; glucagon; hypertrophy; platelet-derived endothelial cell growth factor; cardiovascular disease; cellular tumour antigen P53; cyclin-dependent kinase inhibitor 1C; vasoactive intestinal polypeptide receptor 2; arteriosclerosis; cancer; myocardial infarction; coronary arterial thrombosis; renal disease; diabetic nephropathy; muscular disease; immune disorder; sarcoidosis; multiple sclerosis; immune complex nephritis; deep vein thrombosis;
             cancer, sarcoidosis, nonarcoidotic pulmonary granulomatous diseases as asbestosis and vascular pathologies involving an endothelial
                                                                                                                                                                                           The sequence represents an angiotensin converting enzyme splice variants of (ACEV) polypeptide. The polypeptides of the invention include variants of granulocyte colony stimulating factor receptor, glucagon, interleukin 6, platelet-derived endothelial cell growth factor, cyclin-dependent kinase
                                                                                                                                                                                                                                                                             Claim 4; Fig 38; 519pp;
                                                                                                                                                                                                                                                                                                          Novel alternative splicing variants e.g. variant of angiotensin converting enzyme (ACEV), useful in identifying candidate compounds capable of binding to the variant and to detect anti-variant antibodies.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           17-NOV-1999;
10-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17-NOV-2000; 2000WO-IL000766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Angiotensin converting enzyme
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAU02938 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                            Levine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200136632-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           vascular disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         nonarcoidotic pulmonary granulomatous disease; endothelial abnormality;
                                                                                                                                                                                                                                                                                                                                                                                              2001-336004/35
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
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99IL-00133455
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                            Khosravi R,
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Best Local Similarity
Matches 17; Conserv
                                                                                                     The sequence represents an angiotensin converting enzyme splice variant (ACEV) polypeptide. The polypeptides of the invention include variants of granulocyte colony stimulating factor receptor, glucagon, interleukin 6, platelet-derived endothelial cell growth factor, cyclin-dependent kinase inhibitor IC, cellular tumour antigen PS3, and vasoactive intestinal polypeptide receptor 2. The polypeptides and their associated nucleic acids are useful for identification of variant sequences and detection of candidate compounds capable of binding the molecules. The sequences of the invention can be used in the treatment and diagnosis of various disorders including cardiovascular diseases such as arteriosclerosis, myocardial infarction and coronary arterial thrombosis, renal diseases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                granulocyte colony stimulating factor receptor; glucagon; hypertrophy; platelet-derived endothelial cell growth factor; cardiovascular disease; cellular tumour antigen P53; cyclin-dependent kinase inhibitor 1C; vasoactive intestinal polypeptide receptor 2; arteriosclerosis; cancer; myocardial infarction; coronary arterial thrombosis; renal disease; multiple sclerosis; immune disease; multiple sclerosis; immune complex nephritis; deep vein thrombosis;
                     such as diabetic nephropathy, muscular diseases such as hypertrophy, immune disorders such as immune complex nephritis, multiple sclerosi cancer, sarcoidosis, nonarcoidotic pulmonary granulomatrous diseases as asbestosis and vascular pathologies involving an endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                             Novel alternative splicing variants e.g. variant of angiotensin converting enzyme (ACEV), useful in identifying candidate compounds capable of binding to the variant and to detect anti-variant antibodies.
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10-DEC-1999;
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ilarity 100.0%;
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Pred. No. 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Khosravi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
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RESULT 11
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fungicide; hepatotropic; antirheumatic; antiarthritic; antigout;
tranquillizer; vulnerary; antidiabetic; nephrotropic; antipyretic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human transferrin (mature polypeptide).
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                                                                                                                                                                                                                                                                                                                                                        Modified-site
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              therapy; transgenic animal.
                                                                                                                                                                                                                                                                          "Hinge region"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Hinge region"
                                                                                                                        ion
                                                                                                                        binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1.6e-05;
                                                                                                                        site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
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ADH89360 ID ADH8 XX

ADH89360 standard;

protein; 679

A

RESULT 12

밁 S

251

VVARSMGGKEDLIWELL

267 17 0

1 VVARSMGGKEDLIWELL

Similarity

Conservative

Indels

0

Gaps

0

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CC or prevent glycosylation, including and/or transferrin receptor.

CC binding, having at least one mino acid substitution, deletion or addition in the hinge region, or at residues hap-63, Gly-65, Tyr-95, Tyr-92 (188, Lys-206, His-207, His-249, Asp-92, Tyr-426, Tyr-514, Tyr-517, His-CC (188, Lys-206, His-207, His-249, Asp-92, Tyr-426, Tyr-514, Tyr-517, His-CC (19-459, or a mutation which prevents glycosylation at Asn-413 or Asn-611 (all claimed). Nucleic acids encoding such fusion proteins, vectors, host cells and transgenic animals which produce the fusion protein is useful for treating a disease or disease symptom, or for delivering a therapeutic agent complexed to the ferric iron of transferrin to the inside of a cell or across the blood-brain barrier. The modified fusion protein or a nucleic acid encoding it, can be used in the diagnosis, prognosis, prevention and/or treatment of diseases and/or disorders relating to the blood or to digestive systems, diseases and/or disorders relating to the blood or to barrier in ferricing inferrice.
Query Match
Best Local S
Matches 17
                                                                  Sequence 679
                                                                                                                                                                                                                                                                                                                                                                                                                 proteins comprising at least one therapeutic protein, polypeptide or peptide, in which the Tf portion is engineered to extend the serum half life or bioavailability of the molecule. The modified Tf fusion protein preferably comprises a human Tf moiety that has been modified to reduce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure; Page 280-281; 298pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New fusion protein, useful in the diagnosis and treatment of diseases disorders relating to the respiratory, cardiovascular and digestive
                                                                                                       bacterial or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          systems, comprises a transferrin protein fused to a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2003-332916/31.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    30-AUG-2001;
30-NOV-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       30-AUG-2002; 2002WO-US027637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Binding-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Binding-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO2003020746-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (BIOR-) BIOREXIS PHARM CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       the signal peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequence
                                                                    Š
                                                                                                     parasitic infection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2001US-0315745P
2001US-0334059P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note=
585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note= "N-glycosylated"
652. .658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note= "Iron binding site"
611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note= "Iron binding site"
517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  note= "Iron binding site"
                100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        is the protein sequence of human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Hinge region"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Hinge region"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates to modified Tf fusion
Score 86; DB 6;
Pred. No. 1.6e-05;
0; Mismatches 0;
                                Length 679;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          therapeutic protein
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RESULT 13
ADK15869
ID ADK15
XX
AC ADK15
XX
DT 06-MA
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Matches
                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                  This invention relates to a novel fusion protein which comprises a transferrin protein exhibiting reduced glycosylation fused to at least one antibody variable region. The invention may be useful for the development of compounds with cytostatic, antibacterial, virucide, antiparasitic, immunosuppressive or antiarthritic activity. In addition, the sequences disclosed may be useful for gene therapy. The fusion protein is useful for preparing a composition for treating a disease or disease symptom in a patient for example septic shock, endotoxic shock, cachexia syndromes associated with bacterial, viral or parasitic infections, neoplasm, autoimmune disease, arthritis or adverse effects associated with treatment for preventing graft rejection. The present sequence is that of the mature human transferrin protein which is related.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    antiparasitic; immunosuppressive; antibacterial; virucide; septic shock; endotoxic shock; cachexia syndrome; bacterial infectivital infection; parasitic infection; neoplasm; autoimmune disease; arthritis; graft rejection; human.
                  06-MAY-2004
                                             ADK15869;
                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; SEQ ID NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             preparing a composition autoimmune disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New fusion protein comprising a transferrin protein exhibiting reduced glycosylation fused to at least one antibody variable region, useful for preparing a composition for treating e.g., septic shock, neoplasm or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sadeghi H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30-AUG-2001; 2001US-0315745P.
30-NUV-2001; 2001US-03340599.
30-AUG-2002; 2002US-00231494.
30-AUG-2002; 2002US-0406977P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     fusion protein; transferrin protein; glycosylation; antibody variable region; cytostatic; antibacterial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human transferrin protein mature amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADH89360;
                                                                         ADK15869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               10-MAR-2003; 2003US-00384060
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                                                                                                                                                                                                                      Local
                                                                                                                                                251
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                                                                                                                                                                                                       l Similarity
17; Conser
                                                                                                                                                                                                                                                                                           invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BIOREXIS PHARM CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADH89358
                                                                                                                                                                                                                                                                 679
                                                                                                                                                                    VVARSMGGKEDLIWELL 17
                                                                         standard;
                                                                                                                                                VVARSMGGKEDLIWELL
                                                                                                                                                                                                     100.0%;
ilarity 100.0%;
Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Prior CP,
                                                                                                                                                                                                                                                                 A,
               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                       protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3; 82pp; English.
                                                                                                                                                267
                                                                         679
                                                                                                                                                                                                       0
                                                                                                                                                                                                     Score 86; DB w; ...
Pred. No. 1.6e-05;
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                                                                         A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sequence
                                                                                                                                                                                                                                 Length 679;
                                                                                                                                                                                                        Indels
                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              infection;
                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                           related
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RESULT 14
ADL70732
ID ADL70
XX ADL70
XX ADL70
XX ADL70
XX Inmur
CH Humar
XX Inmur
KW Lerma
KW Nephr
KW Through
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        transferrin (Tf) protein fused to a therapeutic protein/peptide (e.g. beta-interferon - IFN, glucagons-like peptide - GLP-1, erythropoletin mimetic peptide - EMP1, T-20 and soluble toxin receptor). The fusion protein of the invention is useful for epitope tagging. The present an acid sequence represents the mature human Tf protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              fusion protein; transferrin; Tf; beta-interferon; beta-IFN; glucagons-like peptide; GLP-1; erythropoletin mimetic peptide; T-20; soluble toxin receptor; epitope tagging; human.
                                                                                                                                                                                                                                                                     Dermatological; Antiinflammatory; Antibacterial; Vasotropic; Nephrotropic; Neuroprotective; Cerebroprotective; Vulnerary; Antiparkinsonian; Nootropic; Cardiant; Antianaemic; Antiatherosclerotic; Thrombolytic; Anticoagulant; Gastrointestinal; Respiratory; transferrin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             03-JUN-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADL70732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention comprises a fusion protein that contains a modified transferrin (Tf) protein fused to a therapeutic protein/peptide (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            30-AUG-2002;
30-AUG-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30-AUG-2001;
30-NOV-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              04-MAR-2003; 2003US-00378094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27-NOV-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US2003221201-A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mature human transferrin (Tf)
                                                                                                                                     WO2004020588-A2
                                                                                                                                                                                           Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                 Immunosuppressive; Haemostatic; Antiallergic; Antiasthmatic;
                                                                                                                                                                                                                                                                                                                                                                                                                                       Human transferrin,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                to a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (BIOR-) BIOREXIS PHARM CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local
                                                                                                                                                                                                                                                 transferrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             fusion protein comprising a modified transferrin (Tf) protein a therapeutic protein or peptide, useful for epitope tagging.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            251 VVARSMGGKEDLIWELL 267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  l Similarity
17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VVARSMGGKEDLIWELL 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQ ID NO 3; 70pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Lai C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%;
ilarity 100.0%;
Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2002US-00231494.
2002US-0406977P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                           fusion
                                                                                                                                                                                                                                                                                                                                                                                                                                       Tf, mature protein SEQ ID 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sadeghi H,
                                                                                                                                                                                                                                              protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 86; DB 8; 1
Pred. No. 1.6e-05;
Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Turner
                                                                                                                                                                                                                                                 fusion
                                                                                                                                                                                                                                              protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 679;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                amino
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28-AUG-2003; 2003WO-US026779

11-MAR-2004

30-AUG-2002; 2002US-0406977P. 10-MAR-2003; 2003US-00384060. 09-JUL-2003; 2003US-0485404P.

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RESULT 15
ADL24413
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                                                                                                                                                                                                                                                                                                                                                                              CC disorders or diseases of endocrine system, nervous system, inmune system, cardiovascular system, diseases and/or disorders or relating to cell proliferation, and/or diseases or disorders relating to clothod. The modified fusion proteins are useful in diagnosis, prognosis, comprehensing to prevention and/or treatment of autoimmune disorders; diseases and disorders of haematopoletic cells (e.g., leukopenia, neutropenia, anaemia cangh, inflammatory conditions e.g., inflammation associated with cerema; inflammatory conditions e.g., inflammation associated with careful disease, respiratory disorders (multiple sclerosis, respiratory disorders (multiple sclerosis, respiratory disorders (multiple sclerosis, stroke, traumatic brain injury, neurodegenerative disorders such as also useful as an adjuvant to enhance antibacterial or antifungal immune responses, antiparasitic immune responses, etc. The cusion protein is also useful for treating monoclonal gammopathy of undetermined significance (MGUS), waldenstron's disease, plasmacytomas, canders or treating infections of joints, bones, skin, etc. The fusion protein is also useful for treating thrombosis, myocardial infarction, cancers, thrombosytopenia, sickle cell anaemia, myocardial catherosclerosis, etc. The present sequence is human Tf mature protein, cused to make the modified Tf fusion proteins of the invention.
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                                                                                                                                                                                                                                                                                                         Query Match
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Matches 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The present invention relates to a library (I) of modified fusion proteins of transferrin (TE) and therapeutic proteins with increased serum half-life or serum stability. Preferred fusion proteins include those modified so that the Tf moiety exhibits no or reduced glycosylation, iron binding and/or Tf receptor binding. The transferrin fusion proteins are useful for treating, preventing or ameliorating
human; transferrin; oral delivery; glycosylation; cancer;
                                   Human transferrin protein #2
                                                                                                                                                                                                                                                                                                                                                                              Sequence 679 AA;
                                                                        03-JUN-2004
                                                                                                            ADL24413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 44; SEQ ID NO 3; 243pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Novel library containing several fusion proteins each of which comprises first transferrin polypeptide fused to at least one second peptide, useful for screening for transferrin fusion protein having the particular
                                                                                                                                              ADL24413 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Prior CP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (BIOR-) BIOREXIS PHARM CORP.
                                                                                                                                                                                                                                    251
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                                                                                                                                                                     The present invention relates to a pharmaceutical composition formulated for oral, masal or pulmonary delivery, comprising a transferrin (Tf) protein exhibiting reduced glycosylation and fused to a therapeutic protein or peptide. The composition is effective to treat a human disease, preferably chronic human disease. The chronic disease is chosen from viral disease, cancer, metabolic disease, obesity, autoimmune disease, inflammatory disease, altergy, graft-vs.-host disease, systemic microbial infection, anaemia, cardiovascular disease, neurodegenerative disease, disorder of haematopoietic cells, diseases of the endocrine systems or reproductive systems gastrointestinal disease, respiratory disease, diabetes and multiple sclerosis. The present sequence is a polypeptide shown in the exemplification of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                      Pharmaceutical composition useful for treating diabetes, obesity, multiple sclerosis, comprising transferrin protein exhibiting reduced glycosylation and fused to therapeutic protein or peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30-AUG-2002; 2002US-0406977P
04-MAR-2003; 2003US-00378094
08-APR-2003; 2003US-0460829P
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; D.;HELLSTROM, KARL E.;ROSE, TIMOTHY M.;HELLSTROM, INGEGERD;
;PURCHIO, ANTHONY F.;HU, SHIU-LOK, PENNATHUR, STIDHAR
;TITLE OF INVENTION: RECOMBINANT VIRUSES ENCODING THE HHUMAN
;MELANOMA-ASSOCIATED ANTIGEN
NUMBER OF SEQUENCES: 6
;CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/7230
;FILING DATE: 07-JAN-1987
;PRIOR APPLICATION DATA:
APPLICATION NUMBER: 827,313
;FILING DATE: 07-FEB-1986
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Query Match
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                                                           ; Patent No. 6825037
; GENERAL INFORMATION:
APPLICANT: FUNK, WA
APPLICANT: MACGILL:
APPLICANT: MASON, I
APPLICANT: MOODMORT

APPLICANT: MOODMORT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
APPLICANT: FUNK, WAITER D.
APPLICANT: MASCHILIVRAY, ROSS T.A.
APPLICANT: MASCHILIVRAY, ROSS T.A.
APPLICANT: MASCH, Anne B.
APPLICANT: WOODWORTH, ROBERT C.
APPLICANT: WOODWORTH, RECOMBINANT TRANSFERRINS, TRANSFERRIN HALF-
TITLE OF INVENTION: MOLECULES AND MUTANTS THEREOF
NUMBER OF SEQUENCES: 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE: 06-FEB-1992
ATTORNEY/AGENT INFORMATION:
NAME: DeConti, Giulio A.
REGISTRATION NUMBER: 31,503
REFERENCE/DOCKET NUMBER: UVI-005CP2
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION: 530
PRIOR APPLICATION NUMBER: US 07/832,029
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US,
FILING DATE: 28-DEC-19
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MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: RECOMBINANT TRANSFERRINS, TRANSFERRIN HALF-TITLE OF INVENTION: MOLECULES AND MUTANTS THEREOF
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TOPOLOGY: linear
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MacGILLIVRAY, Ross T.A.
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                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 86; DB 2; 100.0%; Pred. No. 1.5e-06;
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                                                                                                                                                                                                                                                                                                                                                                                               Sequence 2, Application US/08470058

Patent No. 5817789

GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Lemontt, Jeffrey F.
TITLE OF INVENTION: Chimeric Proteins For Use in Transport
TITLE OF INVENTION: of a Selected Substance Into Cells
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/470,058
FILING DATE: 06-JUN-1995
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Granahan, Patricia
REGISTRATION NUMBER: 32,227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION:
ATTORNEY AGENT INFORMATION:
ATTORNEY DECORTÍ, GÍULIO A.
REGISTRATION NUMBER: 31,503
REFERENCE/DOCKET NUMBER: UVI-
TELECOMPUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/439,740
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
ADDRESSEE: Hamilton, Brook
STREET: Two Militia Drive
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CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
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                                                                                                                                                                                                                                          COUNTRY: U
ZIP: 02173
                                                                                                                                                                                                                                                                                                  STREET: Two Mil:
CITY: Lexington
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TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: 60 St
CITY: Boston
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60 State Street, suite 510
                                                                                                                                                                                                                                                               USA
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646 VVARSMGGKEDLIWELL 662

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                                                                                                                        ; TOPOLOGY: unknown
; MOLECULE TYPE: protein
US-09-037-188-2
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                                                   Query Match
Best Local S
Matches 17
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Best Local (
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                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY: USA
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows95
SOFTWARE: FastSEQ for Windows Version 2.
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/037,188
FILING DATE: 02-MAR-1998
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                            APPLICATION NUMBER:
FILING DATE: 06-JUN-1995
ATTORNEY/AGENT INFORMATION:
NAME: FRASET, Ph.D., J.D., JAI
REGISTRATION NUMBER: 34,819
REFERENCE/DOCKET NUMBER: 0723(
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617/542-8906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:

APPLICANT: Heartlein, Michael W.

APPLICANT: Lemontt, Jeffrey F.

APPLICANT: Lemontt, Jeffrey F.

APPLICANT: Concino, Michael F.

TITLE OF INVENTION: CHIMERIC PROTEINS FOR USE

TITLE OF INVENTION: IN TRANSPORT OF A SELECTED SUBSTANCE INTO CELLS

NUMBER OF SEQUENCES: 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: 617-861-9540
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 1074 amino acids
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                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 1074 amino acids
TYPE: amino acid
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ADDRESSEE: Fish & Richardson P.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: protein
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STRANDEDNESS: unk
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                                                     l Similarity
17; Conserv
1 VVARSMGGKEDLIWELL 17
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                                                     Conservative
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                                                                  100.0%; Score 86; DB 3; 100.0%; Pred. No. 2.4e-06;
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                                                     Mismatches
                                                                                   Length 1074;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-285-310-2
                                                                                                                   Sequence 4, Application US/08470058
Patent No. 5817789
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Heartlein, Michael W.
APPLICANT: Lemontt, Jeffrey F.
TITLE OF INVENTION: Chimeric Proteins For Use in Transport
TITLE OF INVENTION: of a Selected Substance Into Cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 2
Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                Matches
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SEQUENCE CHARACTERISTICS:
LENGTH: 1074 amino aci
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NAME: FRASER, Ph.D., J.D., JA
REGISTRATION UNMER: 34,819
REFERENCE/DOCKET NUMBER: 0723
TELECOMMUNICATION: 1NFORMATION:
TELEPIONE: 617/542-8906
TELEFAX: 617/542-8906
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APPLICANT:
APPLICANT:
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PRIOR APPLICATION DATA:
APPLICATION NUMBER:
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CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson P.C.
                                                 NUMBER OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
ADDRESSEB: Hamilton, Brook, Smith & Reynolds, P.C.
STREET: Two Militia Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: FastSEQ for Windows Version CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Lemontt, Jeffrey F.
APPLICANT: Connoino, Michael F.
TITLE OF INVENTION: CHIMERIC PROTEINS FOR USE
TITLE OF INVENTION: IN TRANSPORT OF A SELECTED SUBSTANCE INTO CELLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE: protein
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                                                                                                                                                                                                                                                                                                                                                                                                                 Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid TOPOLOGY: unknown
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER: IBM Cor
OPERATING SYSTEM:
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                                   CITY:
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COUNTRY:
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10. 626202
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MA
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                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                               2.4e-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                Length 1074;
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COMPUTER READABLE FORM: MEDIUM TYPE: Floppy

Floppy disk

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                                                                                                             COMPUTER: IBM Compatible
COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows95
SOFTWARE: FastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/037,188
FILING DATE: 02-MAR-1998
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
INFORMATION:
APPLICATION NUMBER:
FILING DATE: 06-JUN-1995
ATTORNEY/AGENT INFORMATION:
NAME: Framer, Ph.D., J.D., Janis K.
REGISTRATION NUMBER: 34,819
REFERENCE/DOCKET NUMBER: 07236/009002
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617/542-5070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
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Best Local Similarity
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GENERAL INFORMATION:
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INFORMATION FOR SEQ ID NO: 4;
SEQUENCE CHARACTERISTICS:
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NAME: Granshan, Patricia
REGISTRATION UNMBER: 32,227
REFERENCE/DOCKET NUMBER: TKT93-01
TELECOMMUNICATION INFORMATION:
TELEPHNE: 617-861-6240
TELEFAX: 617-861-9540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM: MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson P.C.
STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Heartlein, Michael W. APPLICANT: Lemontt, Jeffrey F. APPLICANT: Concino, Michael F. THERMITTON AICHAEL F. THERMITTON AICH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/470,058
FILING DATE: 06-UN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION:
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                                       TELEPHONE: 61//542-8906
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION:
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FOR SEQ ID NO:
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IN TRANSPORT OF A SELECTED SUBSTANCE INTO CELLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%;
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Pred. No. 3.2e-06;
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                                                                                                                                ; TOPOLOGY: unknown ; MOLECULE TYPE: protein US-09-285-310-4
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US-09-285-310-4
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APPLICANT: Heartle
APPLICANT: Lemontt
APPLICANT: Concino
                                                                  Matches
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Best Local Similarity 100.0%;
Matches 17; Conservative 0
                                                                                              Query Match
                                                                                                                                                                                                                                TELEFAX: 617/542-8906
TELEX: 200154
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
LENGTH: 1410 amino acids
                                                                                                                                                                                                                                                                 TELECOMMUNICATION INFORMATION: TELEPHONE: 617/542-5070
TELEFAX: 617/542-8906
                                                                                                                                                                                                                                                                                                                  FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Fraser, Ph.D., J.D., Janis K.
REGISTRATION NUMBER: 34,819
REFERENCE/DOCKET NUMBER: 07236/009002
                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/09/285,310
FILING DATE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/037,188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows 5
SOSTWARE: Fast-SEQ for Windows Version
CURRENT APPLICATION DATA:
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LENGTH: 1410 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
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CORRESPONDENCE ADDRESS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: Fign & No. 100 ADDRESSEE: Fign & No. 100 ADDRESSEE: 225 Franklin Street
                                                                                Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CITY: Boston
 982
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                   1 VVARSMGGKEDLIWELL 17
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                                                                                                                                                                               amino acid
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VVARSMGGKEDLIWELL 998
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Concino, Michael F.
TVENTION: CHIMERIC PROTEINS FOR USE
TVENTION: IN TRANSPORT OF A SELECTED SUBSTANCE INTO CELLS
                                                                  Conservative
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                                                                                100.0%;
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Pred. No. 3.2e-06;
                                                              Score 86; DB 3;
Pred. No. 3.2e-06;
Mismatches 0;
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                                                                                               Length 1410;
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                                                                  Indels
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                                                                  Gaps
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RESULT 11 US-08-145-681-4 ; Sequence 4, Application US/08145681

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US-08-145-681-4
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Best Local Similarity
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GENERAL INFORMATION:
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INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 708 amino acids
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APPLICANT: Headon, Denis R.
APPLICANT: O'Malley, Bert W.
APPLICANT: May, Gregory S.
TITLE OF INVENTION: Production of Recombinant Lactoferrin
TITLE OF INVENTION: and Lactoferrin Polypeptides Using cDNA Sequences
TITLE OF INVENTION: Various Organsims
                                                                                                                                                                                                                                             APPLICANT: Conneely, Orla M.
APPLICANT: Headon, Denis R.
APPLICANT: Headon, Denis R.
APPLICANT: May, Gregory S.
APPLICANT: May, Gregory S.
TITLE OF INVENTION: Production of Recommendation of Recommendation of Recommendation of Recommendation of Invention of Recommendation of Invention of In
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REGISTRATION NUMBER: 29,329
REGISTRATION NUMBER: 19928-0125
REFERENCE/DOCKET NUMBER: 19928-0125
TELECOMMUNICATION INFORMATION:
TELEPHONE: 713/229/1874
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/145,681
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CORRESPONDENCE ADDRESS:
ADDRESSEE: Baker & Botte, L.L.P.
STREET: 910 Louisiana St
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE: protein HYPOTHETICAL: YES ANTI-SENSE: NO
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MEDIUM TYPE: Floppy disk
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                                                                                                                                                                                                              NUMBER OF SEQUENCES:
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STATE: Texas
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TYPE: amino acid
TOPOLOGY: linear
COUNTRY:
                                  STATE:
                                                                 CITY: New York
                                                                                               STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE:
CLASSIFICATION: 435
                                                                                                                                     DDRESSEE:
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                                  New
                                                                                                   1155 Avenue of the Americas
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                              York
                                                                                                                                             Pennie & Edmonds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               82.6%;
                                                                                                                                                                                                                                                                                   Production of Recombinant Lactoferrin and Lactoferrin Polypeptides Using cD
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Pred. No. 0.0006;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 4, Application US/08456106
APPLICATE: CONCULTURE DATE: CLASSIFICATION: 435
CLASSIFICATION DATA:
PRIOR APPLICATION NUMBER: 08/145,681
APPLICATION NUMBER: 08/145,681
CTURE DATE: October 28, 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Patent No.
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Best Local Similarity 82.4%;
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 708 amino acid
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HYPOTHETICAL: YES
ANTI-SENSE: NO
ORIGINAL SOURCE:
ORGANISM: Bos tal
                                                                                                               COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/456,106
                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION:
NAME: Albert P. Halluin
REGISTRATION NUMBER: 25,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/08/453,703
FILING DATE: Concurrently herewith
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/145,681
FILING DATE: October 28, 1993
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COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PatentIn Release #1.0, Version #1.25

CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie &
                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: Production of Recombinant Lactoferrin
TITLE OF INVENTION: and Lactoferrin Polypeptides Using cDNA Sequences
TITLE OF INVENTION: Various Organisms
                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: May, Gregory S. TITLE OF INVENTION: Produc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
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                                                                                                                                                                                                                                                                                   CITY:
STATE:
                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                  STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        274 VVÁRSVDGKEDLIWKLL 290
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Headon,
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                                                                                                 Concurrently herewith
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Pred. No.
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ATTORNEY/AGENT INFORMATION:

8206-025

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Best Local Similarity
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                                                                                                                                PRIOR APPLICATION DATA
APPLICATION NUMBER: 08/145,681
FILING DATE: October 28, 1993
ATTORNEY/AGENT INFORMATION:
NAME: Albert P. Halluin
REGISTRATION NUMBER: 25,227
REFERENCE/DOCKET NUMBER: 8206-02
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-854-3660
                                                                                             TELEFAX: 415-854-3694
INFORMATION FOR SEQ ID NO: 4:
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APPLICANT: Connee
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INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 708 amino acids
                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Albert P. Halluin
REGISTRATION NUMBER: 25,227
REFERENCE/DOCKET NUMBER: 82
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-854-3660
                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 708 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Conneely, Orla M.
APPLICANT: Headon, Denis R.
APPLICANT: O'Malley, Bert W.
APPLICANT: O'Malley, Bert W.
APPLICANT: May, Gregory S.
TITLE OF INVENTION: Production of Recombinant Lactoferrin
TITLE OF INVENTION: and Lactoferrin Polypeptides Using cDNA Sequences
TITLE OF INVENTION: Various Organisms
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORIGINAL SOURCE:
ORGANISM: Bos taurus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE: Pennic
STREET: 1155 Aver
CITY: New York
STATE: New York
                    TYPE: amino acid
TOPOLOGY: linear
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ZIP: 10036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 708 amino acids
TYPE: amino acid
TOPOLOGY: linear
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TYPE:
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; ANTI-SENSE: NO
; ORIGINAL SOURCE:
; ORGANISM: Bos taurus
US-08-456-108-4
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Search completed: November 1, 2005, 12:57:29 Job time : 26 secs
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                                                                                                                                                                                                            ; TYPE: PRT; ORGANISM: Bos taurus US-09-265-577-4
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US-09-265-577-4
                                                                                                                                                                                                                                                            NUMBER OF SEQ ID NOS: 14
SOFTWARE: FRANCSEQ for Windows Version 3.0
SEQ ID NO 4
LENGTH: 708
                                                                                                                                        Matches
                                                                                                                                                       Query Match 82.6%;
Best Local Similarity 82.4%;
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Best Local Similarity 82.4%;
Matches 14; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 4, Application US/09265577 Patent No. 6228614
                                                                                                                                                                                                                                                                                                                               APPLICANT: Conneely, Orla M
APPLICANT: Headon, Denis R.
APPLICANT: O'Malley, Bert W.
APPLICANT: May, Gregory S.
TITLE OF INVENTION: PRODUCTION OF RECOMBINANT LACTOFERRIN
TITLE OF INVENTION: AND LACTOFERRIN POLYPEPTIDES USING CDNA SEQUENCES IN VARIOUS
TITLE OF INVENTION: ORGANISMS
FILE REFERENCE: 01380021US01
CURRENT APPLICATION NUMBER: US/09/265,577
CURRENT FILING DATE: 1999-03-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HYPOTHETICAL:
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                                                                    1 VVARSMGGKEDLIWELL 17 |||||: ||||||:|| 290
                                                                                                                                        14; Conservative
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Pred. No. 0.
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Result
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 200000000
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Perfect score:
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86
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(cgn2 6/ptodata/1/pubpaa/PCT NEW PUB.pep: *
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Copyright (c) 1993 - 2005 Compugen Ltd
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US-10-612-162-1

US-10-384-060-76

US-10-378-094-3

US-10-3184-060-3

US-10-231-494-3

US-10-429-482-4

US-10-429-497-4

US-10-429-515-4

US-10-429-535-4

US-10-429-635-4
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(without alignments)
82.636 Million cell updates/sec
                                                                                                                                                                                                                             Description
               Sequence 1, Appli
Sequence 76, Appl
Sequence 3, Appli
Sequence 3, Appli
Sequence 3, Appli
Sequence 4, Appli
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<b>4</b> 5	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12
66	99	66	66	66	66	66	66	66	66	66	69	71	71	71	76	86	86	86	86	98	86	86	86	86	86	86	86	86	86	98	98	98	86
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-10-170-221-2	-10-205-331-55	-10-316-253-	-10-316-253-27	-10-023-	35-	0-077-38	0-076-81	S	US-10-408-765A-241	-09-864-408A-5	01-9	US-10-513-523-2	0-620-25	-10-169-297-	-10-513-5	0-473-127-80	-473-127-	09-753-385-	09-753-385-	-10-513-523-	0-887-711-	-10-383-201-	-10-383-201-	-10-231-494-	-10-384-06	-10-378-094-	-09-935-642-	-10-429-654-	US-10-429-655-4	-10-429-66	0-429-	US-10-429-661-4	US-10-429-659-4
equence 2,	e 55, App	equence 27	Ŋ	'n	4,	4		e 49	e 24	e 53	183,	e 2,	4, Appl	8, A	4, Appl	804,	e 805,	4, Apı	'n	w	N	Ë	Sequence 10, Appl	N	N	N	9	Sequence 4, Appli	4	4	equence 4, Appl	e 4, Appl	equence 4, Appl

## ALIGNMENTS

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RESULT 2
US-10-384-060-76
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US-10-612-162-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 1, Application US/10612162
Publication No. US20040014145A1
GENERAL INFORMATION:
APPLICANT: Dade Behring Marburg GmbH
TITLE OF INVENTION: Carbohydrate deficient transferrin (CDT
TITLE OF INVENTION: antibodies, their preparation and use
FILE REPERENCE: 2002/B001
CURRENT APPLICATION NUMBER: US/10/612,162
CURRENT APPLICATION NUMBER: US/10/612,162
CURRENT FILING DATE: 2003-07-03
PRIOR APPLICATION NUMBER: 10230550.1
PRIOR APPLICATION NUMBER: 10230550.1
PRIOR APPLICATION NUMBER: 10230550.1
                                                                                                                                                                                        Query Match
Best Local S
Matches 17
                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION NUMBER: 03011334.4
PRIOR FILING DATE: 2003-05-19
NUMBER OF SEQ ID NOS: 4
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                         LENGTH: 17
TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                        ch 100.0%; Score 86; DB 15; Length 17; l Similarity 100.0%; Pred. No. 1.8e-07; 17; Conservative 0; Mismatches 0; Indels
                                                                                                                              1 VVARSMGGKEDLIWELL 17
                                                                                             VVARSMGGKEDLIWELL 17
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION NUMBER: US 10/231,494
PRIOR FILING DATE: 2002-08-30
PRIOR PPLICATION NUMBER: US 60/334,059
PRIOR FILING DATE: 2001-11-30
PRIOR APPLICATION NUMBER: US 60/315,745
PRIOR APPLICATION NUMBER: US 60/406,977
PRIOR PPLICATION NUMBER: US 60/406,977
PRIOR PILING DATE: 2002-08-30
NUMBER OF SEQ ID NOS: 80
                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn version 3.2
SEQ ID NO 3
LENGTH: 679
                                                                Query Match 100.0%; Score 86; DB 15; Best Local Similarity 100.0%; Pred. No. 9.6e-06. Matches 17; Conservative 0; Mismatches 0.
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Publication No. US20030221201A1
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SEQ ID NO 76
LENGTH: 220
                                                                                                                                                     ORGANISM: Homo sapiens
FEATURE:
NAME/KEY: MISC_FEATURE
OTHER INFORMATION: Mature Transferrin Protein
-10-378-094-3
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PRIOR FILING DATE: 2002-08-30
PRIOR APPLICATION NUMBER: US 60/334,059
PRIOR EILING DATE: 2001-11-30
PRIOR APPLICATION NUMBER: US 60/315,745
PRIOR FILING DATE: 2001-08-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: SADEGHI, Homayoun
APPLICANT: TURNER, Andrew
TITLE OF INVENTION: MODIFIED TRANSFERRIN FUSION PROTEINS
FILE REFERENCE: 54710-5001-01-US
CURRENT APPLICATION NUMBER: US/10/378,094
CURRENT FILING DATE: 2003-03-04
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CURRENT APPLICATION NUMBER: US/10/384,060
CURRENT FILING DATE: 2003-03-10
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TITLE OF INVENTION: MODIFIED TRANSFERRIN-ANTIBODY FUSION PROTEINS
FILE REFERENCE: 54710-5004-US
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                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQ ID NOS: 66
                                                                                                                                                                                                                                                                       TYPE: PRT
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1 VVARSMGGKEDLIWELL 17
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Pred. No. 2.8e-06;
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APPLICANT: SADEGHI, Homayoun
APPLICANT: PRIOR, Christopher P.
APPLICANT: PRIOR, Christopher P.
APPLICANT: PRIOR, Christopher P.
APPLICANT: PRIOREM, Andrew
TITLE OF INVENTION: MODIFIED TRANSFERRIN-ANTIBODY FUSION PROTEINS
FILE REFERENCE: 54710-5004-US
CURRENT APPLICATION NUMBER: US/10/384,060
CURRENT FILLING DATE: 2003-03-10
PRIOR APPLICATION NUMBER: US 10/231,494
PRIOR APPLICATION NUMBER: US 60/314,059
PRIOR APPLICATION NUMBER: US 60/315,745
PRIOR FILING DATE: 2001-08-30
PRIOR APPLICATION NUMBER: US 60/315,745
PRIOR FILING DATE: 2001-08-30
PRIOR APPLICATION NUMBER: US 60/315,745
PRIOR APPLICATION NUMBER: US 60/406,977
                                                                                                                                                            ; OTHER INFORMATION: Mature transferrin protein US-10-231-494-3
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US-10-231-494-3
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US-10-384-060-3
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NUMBER OF SEQ ID NOS: 30
SOFTWARE: PATENTIN VEY: 2.1
SEQ ID NO 3
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                                                                Query Match 100.0%; Score 86; DB 15; Best Local Similarity 100.0%; Pred. No. 9.6e-06; Matches 17; Conservative 0; Mismatches 0;
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APPLICANT: Prior, Christopher P.
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Best Local
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CURRENT FILING DATE: 2002-08-30
PRIOR APPLICATION NUMBER: US 60/315,745
PRIOR FILING DATE: 2001-08-30
PRIOR APPLICATION NUMBER: US 60/334,059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: Modified Transferrin Fusion Proteins FILE REFERENCE: 54710-5001-US
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NUMBER OF SEQ ID NOS: 80
                                                                                                                                                                                                         TYPE: PRT ORGANISM: Homo sapiens FEATURE:
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TYPE: PRT
ORGANISM: Homo sapiens
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1 VVARSMGGKEDLIWELL 17
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Pred. No. 9.6e-06
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NUMBER OF SEQ ID NOS: 6
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
LENGTH: 679
TYPE: PRT
ORGANISM: Homo Bapiens
US-10-429-497-4
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; ORGANISM: Homo sapiens
US-10-429-482-4
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US-10-429-482-4
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Publication No. US20040219097A1
GENERAL INFORMATION:
APPLICANT: Sandhu, Jasbir
TITLE OF INVENTION: Composition Useful For The Diagnosis, Imaging and Treatment Of Tu
FILE REFERENCE: 2517.000001
CURRENT APPLICATION NUMBER: US/10/429,482
CURRENT FILING DATE: 2003-05-02
                                                                                                                                         Sequence 4, Application US/10429515
Publication No. US20040219099A1
GENERAL INFORMATION:
APPLICANT: Sandhu, Jasbir
TITLE OF INVENTION: Methods For The Treatment Of Tumors
FILE REFERENCE: 2537.000005
                                             CURRENT APPLICATION NUMBER: US/10/429,515
CURRENT FILING DATE: 2003-05-02
NUMBER OF SEQ ID NOS: 6
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
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SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
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Best Local Similarity
Matches 17, Conserv
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TITLE OF INVENTION: Methods For The Treatment
FILE REFERENCE: 2537.00006
CURRENT APPLICATION NUMBER: US/10/429,497
CURRENT FILING DATE: 2003-05-02
               LENGTH: 679
TYPE: PRT
ORGANISM: Homo sapiens
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Pred. No. 9.6e-06;
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; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 4
; LENGTH: 679
; TYPE: PRT
; ORGANIAM: Homo sapiens
US-10-429-635-4
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Best Local Similarity
Watches 17; Conserve
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                                             Sequence 4, Application US/10429653 Publication No. US20040219102A1 GENERAL INFORMATION:
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Publication No. US20040219101A1

GENERAL INFORMATION:

APPLICANT: Sandhu, Jasbir

TITLE OF INVENTION: Composition Useful For Treatment Of Tumors

FILE REFERENCE: 2537.000007

CURRENT APPLICATION NUMBER: US/10/429,635

CURRENT FILING DATE: 2003-05-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQ ID NOS: 6
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
LENGTH: 679
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CURRENT APPLICATION NUMBER: US/10/429,598
CURRENT FILING DATE: 2003-05-02
APPLICANT: Sandhu, Jasbir
TITLE OF INVENTION: Compositions
FILE REFERENCE: 2537.000009
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ORGANISM: Homo sapiens
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RESULT 12
US-10-429-659-4
US-10-429-659-4
Sequence 4, Application US/10429659
Publication No. US20040219103A1
GENERAL INFORMATION:
APPLICANT: Sandhu, Jasbir
TITLE OF INVENTION: Methods Useful For The Diagnosis, Ima
FILE REFERENCE: 2537.000004
CURRENT APPLICATION NUMBER: US/10/429,659
CURRENT FILING DATE: 2003-04-30
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
LENGTH: 679
TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                               APPLICANT: Sandhu, Jasbir
ITILE OF INVENTION: Methods For Treatment Of Tumors
FILE REFERENCE: 2537.000008
CURRENT APPLICATION NUMBER: US/10/429,661
CURRENT FILING DATE: 2003-05-02
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
LENGTH: 679
TYPE: PAT
ORGANISM: Homo sapiens
US-10-429-661-4
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SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
LENGTH: 679
TYPE: PRT
ORGANISM: Homo sapiens
US-10-429-653-4
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US-10-429-661-4
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Matches 17; Conserv
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                                                             100.0%; Score 86; DB 16; larity 100.0%; Pred. No. 9.6e-06; Conservative 0; Mismatches 0;
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Pred. No. 9.6e-06;
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Sequence 4, Application US/10429660
Publication No. US20040220084A1
GENERAL INFORMATION:
APPLICANT: Sandhu, Jasbir
TITLE OF INVENTION: Methods For Nucleic Acid Delivery
FILE REFERENCE: 2537.000012
CURRENT APPLICATION UNMBER: US/10/429,660
CURRENT FILING DATE: 2003-05-02
NUMBER OF SEQ ID NOS: 12
SOFTWARE: Patentin version 3.1
SEQ ID NO 4
LENGTH: 679
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Search completed: November 1, 2005, 13:26:06 Job time : 88 secs
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                                                                                                                                                                                                                    ; TYPE: PRT ; ORGANISM: Homo sapiens US-10-429-662-4
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US-10-429-662-4
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; ORGANISM: Homo sapiens
US-10-429-660-4
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US-10-429-660-4
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TITLE OF INVENTION: Compositions For Nucleic Acid Delivery
FILE REFERENCE: 2537.000010
CURRENT APPLICATION NUMBER: US/10/429,662
CURRENT FILING DATE: 2003-05-02
NUMBER OF SEQ ID NOS: 12
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
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Publication No. US20040220085A1
GENERAL INFORMATION:
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Best Local Similarity 100.0%;
Matches 17; Conservative 0
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Local Similarity 100.0%;
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Pred. No. 9.6e-06;
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Pred. No. 9.6e-06;
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hypothetical ORF-1
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## ALIGNMENTS

	TFHUP
	transferrin precursor (validated) - human
	N;Alternate names: sleerophilin C;Species: Homo sapiens (man)
	C;Date: 15-Oct-1982 #sequence_revision 30-Sep-1993 #text_change 09-Jul-2004 C;Accession: A20981; A92417; A94044; A29090; A32739; I51959; I63133; I54011; I68160; A0
	Proc. Natl. Acad. Sci. U.S.A. 81, 2752-2756, 1984
	A;Title: Human transferrin: cDNA characterization and chromosomal localization. A;Reference number: A20981; MUID:84194084; PMID:6585826
	A;Contents: variant C A;Accession: A20981
	A; Molecule type: mRNA
	A; RESILUES: 1 030 1100 1100 1100 1100 1100 1100 11
	A,Note: the authors translated the codon CAA for residue 203 as Glu
	J. Blol. Chen. 258, 3543, 1983
	A;Title: The primary structure of human serum transferrin. The structures of seven cyander: A:Reference number: A92417: MUID:83160878: PMID:6833213
	A;Accession: A92417
117	A;MOLECULE type: protein
ur	A; Note: the sequence shown is the predominant electrophoretic genetic variant (C or TfC)
186	R:Park I.: Schaeffer R.: Sidoli. A.: Baralle, F.R.: Cohen, G.N.: Zakin, M.M.
)at	Proc. Natl. Acad. Sci. U.S.A. 82, 3149-3153, 1985
	A;Title: Organization of the human transferrin gene: direct evidence that it originated
ָּ קי	A;Accession: A94044
ig ig	A;Molecule type: DNA A:Residues: 73-263,'E',265-328,'N',330-562 <par></par>
ur	A;Cross-references: EMBL:M11361
7 10	R;Adrian, G.S.; Korinek, B.W.; Bowman, B.H.; Yang, F. Gene 49 167-175 1986
)te	A,Title: The human transferrin gene: 5' region contains conserved sequences which match
ם ה	A;Reference number: A29090; MUID:87192006; PMID:3106157 A:Accession: A29090
28	A; Molecule type: DNA
in te	A;Residues: 1-72;291-300 <adr> A:Cross-references: EMBL:M15673</adr>
lhe	R;Uzan, G.; Frain, M.; Park, I.; Besmond, C.; Maessen, G.; Trepat, J.S.; Zakin, M.M.; KF
or e	BIOCREM: Blognys: Res. Commun. 119, 273-281, 1984 A:Title: Molecular cloning and semience analysis of CNNA for human transferrin.
1-4	A;Reference number: A32739; MUID:84153910; PMID:6322780
7.	A;Accession: A33739 A:Molecule type: mRNA
iuc ,	A; Residues: 422-690, 'G', 692-698 < UZA>
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A;Cross-references: EMBL:M12525; NID:g339468; PIDN:AAA61142.1; PID:g339469 R;MacGillivray, R.T.A.; Mendez, E.; Sinha, S.K.; Sutton, M.R.; Lineback-Zins, Proc. Natl. Acad. Sci. U.S.A. 79, 2504-2508, 1982

J.; Brew,

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C;Species: Oryctologus cuniculus (domestic rabbit)
C;Species: Oryctologus cuniculus (domestic rabbit)
C;Date: 30-Sep-1993 #sequence revision 30-Sep-1993 #text change 22-Jun-1999
C;Accession: S16246; A61239; C61573; S0035; S02694; A26504; S14853
R;Banfield, D.K.; Chow, B.K.C.; Funk, W.D.; Robertson, K.A.; Umelas, T.M.; W. Biochim. Biophys. Acta 1089, 262-265, 1991
A;Title: The nucleotide sequence of rabbit liver transferrin cDNA.
A;Reference number: S16246; MUID:91274362; PMID:2054387
A;Accession: S16246
A;Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TFRBP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Description: binds iron for delivery into cells
C;Superfamily: transferrin; transferrin repeat homology
C;Superfamily: transferrin; glycoprotein; iron transport; metal binding; plasma
C;Keywords: duplication; glycoprotein; iron transport; metal binding; plasma
F;1-19/Domain: signal sequence #status predicted <SIG>
F;20-698/Product: transferrin #status experimental *MAT>
F;20-698/Product: transferrin repeat homology <TRH1>
F;20-350/Domain: transferrin repeat homology <TRH2>
F;28-67,38-58,137-213,156-350,177-193,180-196,190-198,246-260,358-615,364-396,374-387,
F;28-67,38-58,137-213,156-350,177-193,180-196,190-198,246-260,358-615,364-396,374-387,
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A;Residues: 636-696 <RE2>
A;Cross-references: GB:M26641; NID:g339988; PIDN:AAA61233.1; PID:g339989
A;Cross-references: GB:M26641; NID:g339989
A;Cross-references: GB:M26641; 
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A;Residues: 1-72 <RE3>
A;Cross-references: GB:M17611; NID:g339480;
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A;Reference number: I54011; MUID:88056305; PMID:3678832
A;Accession: I54011
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             transferrin precursor -
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A;Introns: 15/1; 72/3; 119/1; 168/1; 212/2; 231/1; 290/3; 350/1; 401/3; 433/1; 444/1;
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A; Residues: 564-698 < RE4>
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A;Cross-references: GDB:120432; OMIM:190000
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Pred. No.
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A; Molecule type: protein
A; Residues: 19-24,'N','26,'X',28-29,'S' < HEA>
C; Superfamily: transferrin; transferrin repeat homology
C; Superfamily: transferrin; glycoprotein; iron transport; n
C; Keywords: duplication; glycoprotein; iron transport; n
F; 1-18/Domain: signal sequence #status predicted <SIG>
F; 19-694/Product: transferrin #status experimental <MAT'
F; 19-349/Domain: transferrin repeat homology <TRH1>
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A;Residues: 482-515.'V',517-544 <EVA>
A;Residues: 482-515.'V',517-544 <EVA>
A;Residues: 482-515.'U',517-544 <EVA>
A;Residues: 482-515.'U',517-544 <EVA>
A;Reaphy, S.; Williams, J.
Biochem. J. 205, 611-617, 1982
Biochem. J. 205, 611-617, 1982
A;Title: The preparation and partial characterization of N-terminal and C-terminal A;Reference number: A26504; MUID:83074540; PMID:8816218
A;Accession: A26504
                                                                                                        R;Roush, E.D.; Fierke, C.A.
Biochemistry 31, 12536-12542, 1992
A;Title: Purification and characterization
A;Reference number: I47228; MUID:93099129;
A;Accession: I47228
                                                                                                                                                                                                                                                                       carbonic anhydrase II inhibitor (transferrin homolog) precursor - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change 09-Jul-2004
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A; Residues: 19-45, S', 47-48, Y', 50 <GOD>
R; Evans, R.W.; Aicken, A.; Patel, K.J.
FEBS Lett. 238, 39-42, 1988
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A;Residues: 19-26,'X',28-36,'X',38-53 <CHU>
R;Godovac-Zimmermann, J.
Biol Chem. Hoppe-Seyler 369, 93-96, 1988
A;Title: Isolation, Characterization and N-terminal amino-acid
A;Reference number: S00335; MUID:88209278; PMID:3365331
A;Accession: S00335
A;Cross-references: UNIPROT:Q29545; EMBL:U36916; NID:g1016329; PIDN:AAB58956.1; PID:g101
                          A; Molecule type: mRNA
A; Residues: 1-704 < ROU>
                                                                              A; Status: preliminary;
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F;27-66,37-57,136-212,155-349,176-192,179-195,189-197,245-259,357-611,363-395,373-386,42
F;508/Binding site: carbohydrate (Asn) (covalent) #status experimental
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A;Accession: C61573
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Int. J. Biochem. 23, 609-616, 1991
A;Title: Purification of transferrins and lactoferrin using A;Reference number: A61573; MUID:91293379; PMID:2065820
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Immunol. 134, 225-234, 1991
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LL'Ara, A.; Yi, C.; Neri, P.; Santucci, A.; Choay,
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88.2%;
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MUID:91191584; PMID:2013104
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Pred. No. 0.
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PMID:1463741
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Genetics:

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R; Mead, P.E.
submitted to the EMBL Data L
A; Reference number: S13881
A; Accession: S13881
A; Molecule type: mRNA
A; Residues: 28-38,'P',40-86,
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C;Species: Bos prinigenius taurus (cattle)
C;Species: Bos prinigenius taurus (cattle)
C;Date: 31-Mar-1992 #sequence revision 21-Nov-1997 #text change 09-Jul-2004
C;Accession: I45919; S14674; S14110; S18517; JT0595; S13097; S18518; S13881; PL0148; R;Tsang, T.C.; Burns, D.K.; Wang, F.; Pan, Y.
R;Tsang, T.C.; Burns, D.K.; Wang, F.; Pan, Y.
RASEB J. 6, 233, 1991
A;Title: Cloning of a 80-kD advanced glycosylation end product (AGE) binding protein A;Reference number: I45919
A;Accession: I45919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Accession: S14674
A;Molecule type: mENA
A;Residues: 1-144,'V',146-163,'PP',166-339,'A',341-438,'Y',440-513,'R',515-708 <
A;Residues: 1-144,'V',146-163,'PP',166-339,'A',341-438,'Y',440-513,'R',515-708 <
A;Residues: 1-144,'V',146-163,'PP',166-339,'A',341-438,'Y',440-513,'R',515-708 <
A;Pierce: Exer. Colavizza, D.; Benaissa, M.; Maes, P.; Tartar, A.; Montreuil, J.;
Exer. J. Biochem. 196, 177-184, 1991
A;Title: Molecular cloning and 1991
A;Title: Molecular cloning and sequence analysis of bovine lactotransferrin.
A;Reference number: S14110; MUID:91160550; PMID:2001696
A;Accession: S14110
                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: mRNA
A; Residues: 1-65, 'PG', '8-296, 'S', 298-339, 'A', 341-708 <GOO>
A; Crose-references: GB.M63502
A; Note: the authors translated the codon CCG for residue 6
R; Mead, P.E.; Tweedie, J.W.
Nucleic Acids Res 18, J167, 1990
A; Title: CDNA and protein sequence of bovine lactoferrin.
A; Reference number: S13097; MUID:91088328; PMID:2263492
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A;Cross-references: EMBL:X54801
A;Accession: 518518
A;Accession: 518518
A;Molecule type: protein
A;Residues: 20-47;59-66;132-139;256-277;278,305-332;343-351;361-363;586,587-589;598-619
A;Residues: 20-47;59-66;132-139;256-277;278,305-332;343-351;361-363;586,587-589;598-619
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A;Molecule type: mRNA
A;Residues: 28-33,'DS',36-38,'P',40-708 <MEA:
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A;Residues: 20-35,82-114;148-163,'pp',166-178,'V','p';183-190;205-212;230-239;304-339;59
R;Goodman, R.E.; Schanbacher, F.L.
Biochem. Blophys. Res. Commun. 180, 75-84, 1991
A;Title: Bovine lactoferrin mRNA: sequence, analysis, and expression in the mammary glan A;Reference number: JT0595; MUID:92028986; PMID:1718281
A;Accession: JT0595
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A,Molecule type: mRNA
A,Residues: 1-708 <TSA>
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A; Accession: $18517
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A; Residues: 3-144,'V', 146-339,'A', 341-438,'Y', 440-513,'R', 515-708 <PI2>
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lecule type: mRNA
sidues: 28-38,'P',40-86,'C',88-708
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Pred. No. 0.00013;
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C;Accession: JC2323
R;Le Provost, P.; Nocart, M.; Guerin, G.; Martin, P.
Biochem. Biophys. Res. Commun. 203, 1324-1332, 1994
A;Title: Characterization of the goat lactoferrin cDNA:
A;Reference number: JC2323; MUID:94380047; PMID:8093048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C;Superfamily: transferrin; transferrin repeat homology
C;Keywords: duplication; glycoprotein; iron; iron binding; metalloprotein; milk
F;1-19/Domain: signal sequence #status predicted <SIG>
F;20-708/Product: lactotransferrin #status experimental <MAT>
F;20-355/Domain: transferrin repeat homology <TRH1>
F;35-60/Region: antimicrobial
F;359-696/Domain: transferrin repeat homology <TRH2>
F;28-64,134-217,176-192,179-200,189-202,250-264,367-399,377-390,424-703,444-666,476-551
F;38-55/Disulfide bonds: #status predicted
F;38-55/Disulfide bonds: #status predicted
F;39-111,211,272/Binding site: iron (Asp, Tyr, Tyr, His) #status experimental
F;352,300,387,495,564/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;414,452,545,614/Binding site: iron (Asp, Tyr, Tyr, His) #status experimental
F;482/Binding site: carbonate (Arg) #status experimental
                                                                                                                                                                        C;Superfamily: transferrin; transferrin repeat homology C;Keywords: duplication; glycoprotein (;Keywords: duplication; glycoprotein F;359-696/homain: transferrin repeat homology <TRH2> F;252,300,387,495,564/Binding site: carbohydrate (Asn)
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A;Residues: 20-25;302-308;359-366,'X',368-376,'X',378 <SHIX
C'Superfamily: transferrin; transferrin repeat homology
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A;Residues: 36-60 <BEL>
A;Residues: 36-60 <BEL>
R;Shimazaki, K.; Tanaka, T.; Kon, H.; Oota, K.; Kawaguchi, A.; Maki, Y.; Sato, T.
J; Dairy Sci. 76, 946-955, 1993
J; Dairy Sci. 76, 946-955, 1993
A;Title: Separation and characterization of the C-terminal half molecule of bovine
A;Reference number: A56659; MUID:93253156; PMID:8486845
A;Accession: A56659
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A; Residues: 20-27,'X', 29-37,'X', 39-54,'X', 56-59 <REJ>
R; Bellamy, W; Takase, M.; Yamauchi, K.; Wakabayashi, H.; Kawase, Biochim. Biophys. Acta 1121, 130-136, 1992
A; Title: Identification of the bactericidal domain of lactoferrin.
A; Reference number: S21756; MUID:92287941; PMID:1599934
A; Accession: S21756
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R;Rejman, J.J.; Hegarty, H.M.; Hurley, W.L.
Comp. Biochem. Physiol. B 93, 929-934, 1989
A;Title: Purification and characterization of bovine lactoferrin
A;Reference number: PL0148; MUID:90031466; PMID:2805645
                                                                                                                                                                                                                                                                                           A; Molecule type: mRNA
A; Residues: 1-708 < LEP >
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C; Date: 20-Feb-1995
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995 #sequence_revision 20-Feb-1995
                                                               Conservative
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A;Molecule type: mRNA
A;Residues: 518-687,'D',689-692,'TA',695 <HUG>
A;Cross-references: GB:M27966; NID:g207439; PIDN:AAA42267.1; PID:g207440
                                                                                                                 A;Cross-references: EMBL:X77158; NID:g510195; PIDN:CAA54403.1; PID:g510196 R;Huggenvik, J.I.; Idzerda, R.L.; Haywood, L.; Lee, D.C.; McKnight, G.S.; Griswold, M.D. Endocrinology 120, 332-340, 1987. A;Title: Transferrin messenger ribonucleic acid: molecular cloning and hormonal regulat: A;Reference number: A30014; MUID:87053639; PMID:3023031
A;Accession: A30014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               transferrin precursor - rat
N;Alternate names: lung-derived growth factor; siderophilin
C;Species: Rattus norvegicus (Norway rat)
C;Date: 16-Feb-1995 #sequence_revision 12-May-1995 #text_change 09-Jul-2004
C;Accession: S49163; S54980; A30014; A14679; A53289; A30512; I52203
R;Escriva, H.; Pierce, A.; Coddeville, B.; Gonzalez, F.; Benaissa, M.; Leger, D.; Wierus submitted to the EMBL Data Library, January 1994
A;Description: Rat mammary gland transferrin: glycan structure, nucleotide sequence and A;Reference number: S49163
A;Accession: S49163
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A;Title: A growth-promoting factor for human myeloid leukemia A;Reference number: S02145; MUID:89076897; PMID:2909248
A;Accession: S02145
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C;Species: Equus caballus (domestic horse)
C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 09-Jul-2004
C;Accession: 833761; S02145
C;Accession: M.A.; Broad, T.R.;Carpenter, M.A.; Broad, T.S.
Biochim. Biophys. Acta 1173, 230-232, 1993
A;Title: The CDNA sequence of horse transferrin.
A;Reference number: S33761; MUID:93277958; PMID:8504171
                                                                                                                                                                                                                                                                                                                                                                                                                           A;Residues: 1-695 <BSC>
A;Cross-references: UNIPROT:P12346; UNIPROT:Q63602; EMBL:X77158; NID:g510195; PIDN:CAASA;Cross-references: UNIPROT:P12346; UNIPROT:Q63602; EMBL:X77158; NID:g510195; PIDN:CAASA;EDGCTIVA, H.; Pierre, A.; Coddeville, B.; Gonzalez, F.; Benaissa, M.; Leger, D.; Wierre Biochem. J. 307, 47-55, 1995
Biochem. J. 307, 47-55, 1995
A;Title: Rat mammary-gland transferrin: nucleotide sequence, phylogenetic analysis and A;Reference number: 554980; MUID:95234054; PMID:7717992
A;Accession: 554980
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A; Residues: 20-35, 'X', 37, 'X', 39-40, 'X', 43-44 < YOS>
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,358-694/Domain: transferrin repeat homology <TRH2>
,26-64,36-55,134-215,174-190,177-198,187-200,248-282,360-623,366-398,376-389,423-701,44
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A;Note: sequence modified after extraction from NCBI backbone
A;Note: sequence extracted from NCBI backbone (NCBIP:86115, NCBIP:86116, NCB)
R;Purves, L.R.; Purves, M.; Linton, N.; Brandt, W.; Johnson, G.; Jacobs, P.
Biochim. Biophys. Acta 966, 318-327, 1988
A;Title: Properties of the transferrin associated with rat intestinal mucosa.
A;Reference number: A30512; MUID:88327006; PMID:3046665
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J. Cell. Biochem. 47, 261-271, 1991
A;Title: Lung-derived growth factor that stimulates the A;Reference number: A53289; MUID:92165927; PMID:1791188
A;Accession: A53289
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A;Molecule type: mRNA
A;Residues: 1-711 <CHO>
A;Cross-references: EMBL:U07643; NID:g467236; PIDN:AAB60324.1;
A;Cross-references: EMBL:U07643; NID:g467236; PIDN:AAB60324.1;
A;Reference: EMBL:U07643; NID:g467236; PIDN:AAB60324.1;
Nucleic Acids Res. 18, 5288, 1990
Nucleic Acids Res. 18, 5288, 1990
A;Tetle: Complete nucleotide sequence of human mammary gland la
A;Reference number: S11228; MUID:90384839; PMID:2402455
                                                                                                                                                                                                                               submitted to the EMBL Data Library, March 1994
A;Reference number: G06820
A;Accession: G01394
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A; Residues: 7-25,'X',27-56,'A',58-64,267-295 <RES>
A; Cross-references: GB: M26113; NID: g207437; PIDN: AAA42266.1; PID: g207438
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A;Residues: 20-30;639-643, 'KD',646, 'LKACD' <PUR>
R;RAldred, A.R.; Howlett, G.J.; Schreiber, G.
Biochem. Biophys. Res. Commun. 122, 960-965, 1984
A;Title: Synthesis of rat transferrin in Escherichia coli
A;Reference number: 152203; MUID:84307580; PMID:6236811
                                                                                                                                                                                                        A; Status: preliminary; translated from GB/EMBL/DDBJ
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A; Residues: 89,'Y',91,'A',93-99,'V',101-102;'N',233,'AN',236-243;401-406,'N',408
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A; Residues: 20-47 < SCH>
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                                                                                                                                                                                                                                                                                                                          /Reconstruction // Species: Homo sapiens (man)
/Species: Homo sapiens (man)
/Date: 31-Mar-1992 #sequence revision 21-Nov-1997 #text change 08-Dec-2000
/Arrension: G01394; S11228; Ā45401; S10324; S15853; S20841; S07160; A61169
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A; MCCEBBACA... RNA
A; Molecule type: mRNA
A; Residues: 1-148, 'T', 150-422, 'C', 424-711 <REY>
A; Coss-references: EMBL: X53961; NID: 934415; PIDN: CAA37914.1;
A; Cross-references: EMBL: X53961; NID: 934415; PAnella, T.

PID:g34416

A; Accession: S11228

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A; Map position: 3q21-3q23

A; Map position: 3q21-3q23

C; Superfamily: transferrin; transferrin repeat homology

C; Keywords: duplication; glycoprotein; iron binding; milk

F; 1-19/Domain: signal sequence #status predicted <SIG-
F; 20-711/Product: lactotransferrin #status experimental <MAT-
F; 21-356/Domain: transferrin repeat homology <TRH1-
F; 360-699/Domain: transferrin repeat homology <TRH2-
F; 39-56, 135-218, 177-193, 190-201, 251-265, 503-697, 595-609/Disulfide bonds:
F; 157, 498/Binding site: carbohydrate (Asn) (covalent) #status experimental
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A; Title: Lactoferrin: similarity to diamine oxidase and A; Reference number: S74119; MUID:97054624; PMID:8898921
A; Accession: S74119
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A;Residues: 436-487, 'A', '489-711 <RAD>
A;Residues: 436-487, 'A', '489-711 <RAD>
A;Recidues: EMBL:M18642; NID:g186815; PIDN:AAA86665.1; PID:g386855
R;Panella, T.J.; Liu, Y.; Huang, A.T.; Teng, C.T.
Cancer Res. 51, 3037-3043, 1991
A;Title: Polymorphism and altered methylation of the lactoferrin gene in n A;Reference number: A61169; MUID:91235214; PMID:1674448
A;Accession: A61169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Molecule type: protein
A;Residues: 'G',23-24,'R',26-27,'XX',30-32 <HOU>
A;Experimental source: neutrophil granulocytes
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R;Powell, M.J.; Ogden, J.E.
Nucleic Acids Res. 18, 4013, 1990
A;Title: Nucleotide sequence of human lactoferrin cDNA.
A;Reference number: S10324; MUID:90326549; PMID:2374734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Molecule type: protein
A; Residues: 20-140,142-169,171-203,'L',205,'K',207-208,'K',210-385,'Q',387-391,'W',393-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A, Experimental source: placenta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Experimental source: normal breast tissue indicated with the source in the source of the source in t
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[Title: Isolation of lactoferrin cDNA from a human myeloid library and expression of Reference number: S07160; MUID:88001031; PMID:3477300
[Accession: S07160]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cross-references:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gene: GDB:LTF
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Residues: 20-28, X, 30-31 <ST2>
Rado, T.A.; Wei, X.; Benz Jr., E.J.
cod 70, 989-993, 1987
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Residues: 20-31 <ST1>
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Residues: 3-711 <POW>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Reference number: A45401;
Accession: A45401
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Residues: 3-701,'SW
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cross-references: GB:852659; NID:g263311; PIDN:AAB24877.1;
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lactoferrin precursor - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 17-Feb-1994 #sequence_revision 17-Feb-1994 #text_change
C;Accession: A45543; S24173
R;Alexander, L.J.; Levine, W.B.; Teng, C.T.; Beattie, C.W.
Anim. Genet. 23, 251-256, 1992
A;Title: Cloning and sequencing of the porcine lactoferrin cDNA.
A;Reference number: A45543; MUID:92367939; PMID:1503259
                                                                                                                                                                                                                                                                                                                                       RESULT 10
A45543
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A;Note: the authors suggest transferrin fro
R;Chung, M.C.M.; Chan, S. L.; Shimizu, S.
Int. J. Biochem. 23, 609-616, 1991
A;Title: Purification of transferrins and 1
A;Reference number: A61573; MUID:91293379;
A;Accession: A61573
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A;Molecule type: mRNA
A;Residues: 1-703 <ALES
A;Cross-references: UNIPROT:P14632
A;Experimental source: mammary glar
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A; Residues: 1-8,'X',10-18,'XE' < CHU>
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A; Residues: 1-8,'X',10-11,'X',13-15 <BA2>
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A; Title: Nucleotide sequence of porcine liver transferrin A; Reference number: S01384; MUID:88335629; PMID:3419934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C;Date: 10-Sep-1999 #sequence_revision
C;Accession: S01384; A60520; A61573
R;Baldwin, G.S.; Weinstock, J.
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                                                                                           A;Status:
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Sus scrofa domestica (domestic pig)
-Sen-1999 #sequence_revision 10-Sep-1999
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76.5%;
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Pred. No.
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A; Note: Bequence extracted from NCBI backbone (NCBIN:111151, NCBID:111153) R; Lydon, J.P.; O'Malley, B.R.; Saucedo, O.; Lee, T.; Headon, D.R.; Conneely, Biochim. Biophys. Acta 1132, 97-99, 1992
A;Title: Nucleotide and primary amino acid sequence of porcine lactoferrin. A; Reference number: 824173; MUID:92379101; PMID:1511016
A; Accession: 824173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Molecule type: DNA
A;Residues: 1-15 < LIUV
A;Residues: 1-15 < LIUV
A;Residues: 1-15 < LIUV
C;Superfamily: transferrin; transferrin repeat homology
C;Superfamily: transferrin; transferrin repeat homology
C;Keywords: duplication; glycoprotein
F;1-19/Domain: signal sequence #status predicted <SIG>
F;20-707/Product: lactorransferrin #status predicted <MJ
F;358-695/Domain: transferrin repeat homology <TRH2>
F;358-695/Domain: transferrin repeat homology <T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Species: Mus musculus (house mouse)
C;Date: 10-Sep-1999 #sequence revision 10-Sep-1999 #text_change 10-Sep-1999
C;Accession: A28438; A41205
R;Pentecost, B.T.; Teng, C.T.
J. Biol. Chem. 262, 10134-10139, 1987
A;Title: Lactotransferrin is the major estrogen inducible protein of mouse uterine A;Reference number: A92596; MUID:87280033; PMID:3611056
A;Accession: A28438
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A;Experimental source: mammary gland
C;Superfamily: transferrin; transferrin repeat homology
C;Keywords: duplication; glycoprotein; iron; iron binding; metalloprotein; milk
F;1-19/Domain: signal sequence #status predicted <SIG>
F;20-703/Product: lactoferrin #status predicted <MAT>
F;20-350/Domain: transferrin repeat homology <TRH1>
F;36-48/Region: antimicrobial
F;354-691/Domain: transferrin repeat homology <TRH2>
F;36-62,38-53,129-212,171-187,184-195,245-259,362-394,372-385,419-698,439-661,471-546,49
F;77,107,206,267/Binding site: iron (Asp. Tyr, Tyr, His) #status predicted
F;409,447,540,609/Binding site: iron (Asp. Tyr, Tyr, His) #status predicted
F;409,447,540,609/Binding site: carbonate (Arg) #status predicted
F;409,447,540,609/Binding site: carbonate (Asp) (covalent) #status predicted
RESULT 12
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J. Biol. Chem. 266, 21880-21885, 1991
A;Title: Characterization of estrogen-responsive mouse lactoferrin promoter.
A;Reference number: A41205; MUID:92042099; PMID:1939212
A;Accession: A41205
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A;Residues: 1-11,'W',13-50,'I',52-84,'G',86-120,'L',121-130,'I',132-282,'S',284-571,'Q'
A;Cross-references: EMBL:M92089; NID:g164613; PIDN:AAA31102.1; PID:g164614
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A; Residues: 3-707 < PEN>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cross-references: EMBL:J03298;Liu, Y.; Teng, C.T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    494/Binding site: carbohydrate (Asn) (covalent)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local
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                                                                                                                                                                                                                                                                                                                                                                                       Similarity
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76.5%;
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                                                                                                                                                                                                                                                                                                                                     Score 55; DB
Pred. No. 0.33
2; Mismatches
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Pred. No. 0.0065;
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RESULT 13
A75097
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A;Rosidues: 15-80;81-141;217-251;252-301 <CHE>
A;Crose-references: UNIPROT.Q92111
A;Otos: the authors translated the codon ACC for residue 61 as Tyr, TCC for R;Idzerda, R.L.; Behringer, R.R.; Theisen, M.; Huggenvik, J.I.; McKnight, Roll. Cell. Biol. 9, 5.54-512, 1989
A;Title: Expression from the transferrin gene promoter in transgenic mice. A;Reference number: A33482; MUID:90097932; PMID:2601714
A;Accession: A33482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             transferrin - mouse (fragments)
C;Species: Mus musculus (house mouse)
C;Date: 30-Jun-1989 #sequence revision 05-Dec-1997 #text_change 09-Jul-2004
C;Accession: A28446; A33482; B28438
R;Chen, L.H.; Bissell, M.J.
R;Chen, L.H.; A34861, M.J.
R;Chen, L.H.; A34861, M.J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;ACLCOURCE TYPE: mRNA
A;Residues: 86-216 <PEN>
A;Cross-references: GB:J03299; GB:J02737; NID:g198847; PIDN:AAA39438.1; PID:g198848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Molecule type: DNA
A;Residues: 1-14;302-311 <IDZ>
A;Residues: 1-14;302-311 <IDZ>
A;Cross-references: GB:M30819; GB:M30820
R;Pentecost, B.T.; Teng, C.T.
J. Biol. Chem. 262, 10134-10139, 1987
A;Title: Lactotransferrin is the major estrogen inducible protein of mouse uterine secre A;Reference number: A92596; MUID:87280033; PMID:3611056
A;Accession: B28438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           hypothetical protein PAB1598 - Pyrococcus abyssi (strain Orsay) C;Species: Pyrococcus abyssi (C;Date: 20-Aug-1999 #sequence_revision 20-Aug-1999 #text_change C;Accession: A75997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         J. Biol. Chem. 262, 17247-17250, 1987
A;Title: Transferrin mRNA level in the mouse mammary gland is
A;Reference number: A28446; MUID:88086992; PMID:3693348
A;Accession: A28446
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                                                                                                                                                                                    A;Gene: PAB1598
C;Superfamily: Methanobacterium thermoautotrophicum conserved hypothetical
                                                                                                                                                                                                                                                                A;Residues: 1-459 <KAW>
A;Residues: 1-459 <KAW>
A;Cross-references: UNIPROT:Q9UZH9; GB:AJ248286; GB:AL096836; NID:g5458366;
                                                                                                                                                                                                                                                                                                                          A; Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                      A; Reference number: A75001
A; Accession: A75097
                                                                                                                                                                                                                                                                                                                                                                                                                                      R;anonymous, Genoscope submitted to the EMBL Data Library, July 1999
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                                                                                          Matches
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Best Local :
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428
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                                              VVARSMGGKEDL----IWEL 16
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52.4%;
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Pred. No. 0.44
1; Mismatches
                                                                                                                                      Score 49.5;
                                                                                                                  Pred. No. 1.8;
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RESULT 14 G72464

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RESULT 15
S64921
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A;Cross-references: SGD:S0004077
A;Map position: 12R
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R;Benes, V.; Rechmann, S.; Nentwich, U.; Schwager, C.; Ansorge, W.; Voss, H. submitted to the Protein Sequence Database, May 1996
A;Reference number: S64920
A;Accession: S64921
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N;Alternate names: hypothetical protein L2506
C;Species: Saccharomyces cerevisiae
C;Species: Saccharomyces cerevisiae
C;Date: 01-Aug-1995 #sequence revision 24-May-1996 #text_change 09-Jul-2004
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C;Superfamily: Thermotoga maritima hypothetical protein MTH1256
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A;Experimental source: strain Kl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Molecule type: DNA
A; Residues: 1-510 < KAW>
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C;Bpecies: Aeropyrum pernix
C;Bpecies: Aeropyrum pernix
C;Date: 20-Aug_1999 #sequence_revision 20-Aug-1999 #text_change 09-Jul-2004
C;Accession: G72464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Status: preliminary
                                                                                                                                                                    Query Match
Best Local S
Matches 7
                                                                                                                                                                                                                                                                                                                           ;Keywords: transmembrane protein
;21-37/Domain: transmembrane #status predicted <TMl>
;21-37/Domain: transmembrane #status predicted <TM2>
;1928-1944/Domain: transmembrane #status predicted <TM3>
;2654-2670/Domain: transmembrane #status predicted <TM4>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Molecule type: DNA
Residues: 2353-2958 <POH>
Crose-references: EMBL: Z73259; MIPS: YLR087c
Experimental source: strain S288C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Reference number: S64899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         bmitted to the Protein Sequence Database, May 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Residues: 1-2958 <BEN>
|Cross-references: UNIPROT:Q12150; EMBL:Z73259; NID:g1360456; PID:g1360457; MIPS:YLR08:
|Experimental source: strain S288C
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Best Local (
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1653 LMSRTVGGRVSLLWENL 1669
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                                                                                                                                                                    Similarity 41.: 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity 55.6%;
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                                                                                                                                                                                                       52.3%; Score 45; DB 2; Length 2958; 41.2%; Pred. No. 83;
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Search completed: November 1, Job time: 20.25 Becs

2005, 12:55:45

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9 pyrococcus
5 aeropyrum p
6 homo sapien
3 oryza sativ
2 oryza sativ
0 drosophila

mus musculu mus musculu

mus musculu

sus scrofa
sus scrofa
sus scrofa
rattus norv

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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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104.569 Million cell updates/sec
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Q7TP24
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TRFL_PIG
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Q7TSX8
TRFL CAMDR
Q6LC78
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Q9GL95
TRFE HUMAN
Q9GL91
Q9GL92
Q9GL94
Q9GL93
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TRFE_MOUSE
TRFE_RAT
Q7TNX0
TRFL_HUMAN
Q7TMC7
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Q9GL89
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Q9XT72
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P02788
Q7tmc7
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Q9tqv8
P27425
Q9g189
Q77811
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Q61c78
Q61bn7
P24627
O77698
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P09571
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Q9xt72
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P02787
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                                                                                                                                    trichosurus
capra hircu
equus cabal
equus cabal
hippopotamu
equus cabal
mus musculu
rattus norv
                                                                   homo sapien
                                                                                                                                                                                                                                                                                                                                                bos taurus
bos taurus
bubalus bub
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inia geoffr
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bos taurus
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phocoenoide
homo sapien
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camelus dro
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sus scrofa
                          rattus norv
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Q9GL95
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Q9GL90;
01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence of the sequenc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -I- FUNCTION: Transferrins are iron binding transport proteins which bind ferric iron in association with the binding of an anion, usually bicarbonate (By similarity).
-I- SIMILARITY: Belongs to the transferrin family.

BMBL; AF304105; AAG32047.1; -.

HSSP; P02787; IA8E.
G0; G0:0005576; C:extracellular; IEA.
G0; G0:0005576; C:extracellular; IEA.
G0; G0:0006879; P:iron ion homeostasis; IEA.
G0; G0:0006879; P:iron ion transport; IEA.
G0; G0:0006810; P:transport; IEA.
G0; G0:0006810; P:transport; IEA.
InterPro; IFR001156; Peptidase S60.
                                                                                                                                                                                                                                                                                                  Pfam; PF00405; Transferrin; 1.

PRINTS; PR00422; TRANSFERRIN.

PROSITE; PS00207; TRANSFERRIN 3; 1.

Iron transport; Metal-binding; Transport.

NON TER 1 1

NON TER 80 80

SEQUENCE 80 AA; 9115 MW; 8FEDB3A5F2F4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDIJINE=20481910; PubMed=11027333; DOI=10.1073/pnas.97.21.11343; Cassens I., Vicario S., Waddell V.G., Balchowsky H., Van Belle D., Ding W., Fan C., Mohan L., Simoes-Lopes P.C., Bastida R., Meyer A. Stanhope M.J., Milinkovitch M.C.; Stanhope M.J., Milinkovitch M.C.; "Independent adaptation to riverine habitats allowed survival of ancient cetacean lineages"; Proc. Natl Acad. Sci. U.S.A. 97:11343-11347(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=27602;
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                                                                                                                                      1 VVARSMGGKEDLIWELL 17
                                                                                                                                                                                                         ch 100.0%; l Similarity 100.0%; 17; Conservative (
                                                                                                                   VVARSMGGKEDLIWELL
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Q6YT39
Q6YT39
Q7YS20
Q6Q147
Q8VC96
Q9DBD0
TRFL_MM
Q8CBA
Q9UZH9
Q9Y9C5
Q9YFTV6
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Q9AYI2
Q6XHD0
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                                                                                                                                                                                                                                    Score 86;
Pred. No.
       PRT;
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annotation update)
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Q6y139
Q7y820
Q6q147
Q8vc96
Q9dbdo
P08071
Q8cba0
Q9uzh9
Q9yzhc6
Q7rtv6
Q7rtv6
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1612378 seqs,

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1 VVARSMGGKEDLIWELL US-10-612-162A-1

Scoring table:

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Matches 17
                                Gene
                                                    Schaeffer B., Lucero M.A.,
Chambon P., Cohen G.N., Zak
"Complete structure of the
analogous chicken gene and
Gene 56:109-116(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  P02787; O43890; Q9NQB8; Q9UHV0;
21-JUL-1986 (Rel. 01, Created)
01-OCT-1989 (Rel. 12, Last sequence update)
25-OCT-2004 (Rel. 45, Last annotation update)
Serotransferrin precursor (Transferrin) (Siderophilin)
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A., AND VARIANTS TF*B2; TF*CHI MEDLINE=84194084; Pubmed=658826; Yang F., Lum J.B., McGill J.R., Moore C.M., Nay van Bragt P.H., Baldwin W.D., Bowman B.H.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          binding globulin)
Name=TF;
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MEDLINE=20481910; PubMed=11027333; DOI=10.1073/pnas.97.21.11343;
Cassens I., Vicario S., Waddell V.G., Balchowsky H., Van Belle D.,
Ding W., Fan C., Mohan L., Simoes-Lopes P.C., Bastida R., Meyer A.
Stanhope M.J., Milinkovitch M.C.;
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Phocoenoides phocoena (Harbor porpoise).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Cetacea; Odontoceti; Phocoenidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-MAR-2001 (TrEMBLrel.
01-MAR-2001 (TrEMBLrel.
01-MAR-2004 (TrEMBLrel.
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                                                                                                                                                                                                                                              SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo
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                                                                                                                                                                                                                 MEDLINE=88056305; PubMed=3678832;
                                                                                                                                                                                                                                                                                                                                             localization.";
                                                                                                                                                                                                                                                                                                                                                                       'Human transferrin: cDNA characterization
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GO:0006826; P:iron ion transport; IEA.
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RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altechul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Altechul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Citare M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Villalon D.K., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Mhiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA RACdriguez A.C., Grinwood J., Schmutz J., Myers R.M.,
RA Rodriguez A.C., Grinwood J., Schmutz J., Myers R.M.,
RA Rodriguez A.C., Grinwood J., Schmutz J., Myers R.M.,
RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
Generation and initial analysis of more than 15,000 full-length human
man deguences ",

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                                                                                                                                                                                                                                                             MEDLINE=84153910; P
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MEDLINE=9223139; PubMed=1809186;

Hershberger C.L., Larson J.L., Arnold B., Rost

Williams P., Dehoff B., Dunn P., O'Neal K.L.,

"A cloned gene for human transferrin.";

Ann. N. Y. Acad. Sci. 646:140-154(1991).
SEQUENCE OF 73-698
MEDLINE=85216459;
                                                                                                           McGillivray R.T.A., Men
                                                                                                                                                                                                                              Zakin M.M., Kahn A. "Molecular cloning
                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE OF 99-698 FROM N.A.
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Nickerson D.A.;
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                                                                               seven cyanogen
                                                                                                                                                               SEQUENCE OF 20-698
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Zakin M.N
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MCG1111vray R.T.A., Mendez E., Sinha S.K., Sutton
Lineback-Zins J., Brew K.;
"The complete amino acid sequence of human serum
Proc. Natl. Acad. Sci. U.S.A. 79:2504-2508(1982).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDIJINE=20392111; PubMed=10931525;
DOI=10.1002/1097-4547(20000815)61:4-388::AID-JNR5>3.0.CO;2-Q;
de Arriba Zerpa G.A., Saleh M.-C., Fernandez P.M., Guillou F.
Espinosa de los Monteros A., de Vellis J., Zakin M.M., Baron "Alternative splicing prevents transferrin secretion during differentiation of a human oligodendrocyte cell line.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE OF 1-72 AND 291-300 FROM N.A.

MEDLINE=87192006; PubMed=3106157; DOI=10.1016/0378-1119(86)90277-5;

MATIAN G.S., Korinek B.W., Bowman B.H., Yang F.;

"The human transferrin gene: 5' region contains conserved sequences which match the control elements regulated by heavy metals, glucocorticoids and acute phase reaction.";
                                                       MEDLINE=92031536; PubMed=1932003; McGdllivray R.T.A.; McGdworth R.C., Mason A.B., Funk W.D., McGlllivray R.T.A.; McGdreenton and initial characterization of five site-directed of the N-terminal half-molecule of human transferrin.";
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                   Biochemistry 30:10824-10829(1991) [20]
                                                                                                                                                                                                                                                                                                                    database of numan nearc.";
Electrophoresis 16:1160-1169(1995).
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Ershova E.S., Egorov T.A.,
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Duguid J.R., Bohmont C.W., Liu N.G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Tsuchida S., Ikemoto Submitted (APR-1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE OF 564-624 FROM N.A. Tsuchida S., Ikemoto S., Kaji
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=87066744; PubMed=3786138;
Lucero M.A., Schaeffer E., Cohen (
"The 5' region of the human trans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Organization of the human transferrin originated by gene duplication.";
                                                                                                                                           MUTAGENESIS
                                                                                                                                                                                                                                                                                    DISULFIDE BONDS.
                                                                                                                                                                                                                                                                                                                                            "The major protein expression profile database of human heart.";
                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=96007936; PubMed=7498159;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  disease
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE OF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Changes in
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CRYSTALLOGRAPHY (1.6
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Acad. S
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        brain
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  564-624 FROM N.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Res. 61:388-395(2000).
                                                                                                                                                                                                                                                                                                                                                                                                        Shiehkin S.S., Efimochkin A.S., Kovalyova M.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gene expression
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Sci. U.S.A. 82
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ANGSTROMS)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        531-538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 86:7260-7264(1989).
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MEDLINE=20481910; PubMed=11027333; DOI=10.1073/pnas.97.21.11343;
Cassens I., Vicario S., Waddell V.G., Balchowsky H., Van Belle D
Ding W., Fan C., Mohan L., Simoes-Lopes P.C., Bastida R., Meyer ;
Stanhope M.J., Milinkovitch M.C.;
"Independent adaptation to riverine habitats allowed survival of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=99155227; PubMed=10029548; DOI=10.1021/bi9824543; Bewley M.C., Tam B.M., Grewal J., He S., Shewry S., Murphy Mason A.B., Woodworth R.C., Baker E.N., Macgillivray R.T.ł. "X-ray crystallography and mass spectroscopy reveal that the human transferrin expressed in Pichia pastoris is folded co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=98272665; PubMed=9609685; DOI=10.1021/bi980355j; Macgillivray R.T.A., Moore S.A., Chen J., Anderson B.F., Bardine Y., Bewley M.C., Smith C.A., Murphy M.E.P., Wang Y., Mc Woodworth R.C., Brayer G.D., Baker E.N.; "Two high-resolution crystal structures of the recombinant
                                                                                                                                                                           Pfam;
                                                                                                                                                                                                                                                                                                        HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Woodworth R.C., Bewley M.C., Macgillivray R.T.A Woodworth R.C., Baker E.N.;
"Ligand-induced conformational change in tran structure of the open form of the N-terminal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             X-RAY CRYSTALLOGRAPHY (2.2 ANGSTROMS) OF 22-350.
MEDLINE=98434369; PubMed=9760232; DOI=10.1021/bi9812064;
Jeffrey P.D., Bewley M.C., Macgillivray R.T.A., Mason A.B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa;
Mammalia; Eutheria;
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                                                                                                                                                                  GO:0005576; C:extracellular; IEA.
GO:0008199; F:ferric iron binding;
GO:0006879; P:iron ion homeostasis;
GO:0006886; P:iron ion transport; II
erPro; IPR001156; Peptidase $60.
m; PF00405; Transferrin; 1.
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                                                                                                                                                                                                                                                                                                                       nt cetacean lineages.";
Natl. Acad. Sci. U.S.A.
AF304104; AAG32046.1;
                                                                                                                                                                                                                                                                                                        P02787; 1A8E.
  Similarity
16; Conserv
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17; Conserv
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Cetartiodactyla; Cetacea;
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Best Local S
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Q9GL94;
01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 26, Last seq
01-MAR-2004 (TrEMBLrel. 26, Last ann
Transferrin (Fregment)
Inia geoffrensis (Amazon dolphin)
MEDLINE-20481910; PubMed=11027333; DOI=10.1073/pnas.97.21.11343; Cassens I., Vicario S., Waddell V.G., Balchowsky H., Van Belle D. Ding W., Fan C., Mohan L., Simoes-Lopes P.C., Bastida R., Meyer A. Stanhope M.J., Milinkovitch M.C.; "Independent adaptation to riverine habitats allowed survival of ancient cetacean lineages."; Proc. Natl. Acad. Sci. U.S.A. 97:11343-11347(2000). EMBL; AF304401; AAG32043.1; -.
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PRINTS;
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MEDLINE=20481910; PubMed=11027333; DOI=10.1073/pnas.97.21.11343;
Cassens I., Vicario S., Waddell V.G., Balchowsky H., Van Belle D.,
Ding W., Fan C., Mohan L., Simoes-Lopes P.C., Bastida R., Meyer A.,
Stanhope M.J., Milinkovitch M.C.;
"Independent adaptation to riverine habitats allowed survival of
ancient cetacean lineages.";
Proc. Natl. Acad. Sci. U.S.A. 97:11343-11347(2000).
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Q9GL92;
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                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=9725;
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Mammalia; Eutheria;
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Mesoplodon peruvianus (Peruvian beaked whale).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Cetacea; Odontoceti; Ziphiid
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G0:0005576; C:extracellular; IEA.
G0:0008199; F:ferric iron binding; IEA
G0:0006879; P:iron ion homeostasis; IE
G0:0006876; P:iron ion transport; IEA.
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PF00405; Transferrin; 1.
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16; Conservative
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94.1%;
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Pred. No. 3.2e
1; Mismatches
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TRESULT 8
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   TREE BOVIN STANDARU;

Q2943;

Q1-NOV-1997 (Rel. 35, Created)

01-NOV-1997 (Rel. 35, Last sequence update)

05-JUL-2004 (Rel. 44, Last annotation update)

05-JUL-2004 (Rel. 44, Cast annotation update)

05-JUL-2004 (Rel. 44, Cast annotation update)
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Q9GL93;
01-MAR-2001
01-MAR-2001
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SEQUENCE
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MEDLINB=20481910; PubMed=11027333; DOI=10.1073/pnas.97.21.11343;
Cassens I., Vicario S., Waddell V.G., Balchowsky H., Van Belle D.
Ding W., Fan C., Mohan L., Simoes-Lopes P.C., Bastida R., Meyer J.
Stanhope M.J., Milinkovitch M.C.;
"Independent adaptation to riverine habitats allowed survival of "ncient cetacean lineages.";
Proc. Natl. Acad. Sci. U.S.A. 97:11343-11347(2000).
EMBL; AF304102; AAG32044.1; -.
HSSP; P19134; JUNF.
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Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Cetartiodactyia; Cetacea; Odontoceti;

Physeteridae; Physeter.
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SEQUENCE
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GO; GO:0008199; F:ferric iron binding; IEA.
GO; GO:0006879; P:iron ion homeostasis; IEA.
GO; GO:0006826; P:iron ion transport; IEA.
InterPro; IPR001156; Peptidase_S60.
Pfam; PF00405; Transferrin; 1.
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binding globulin)
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Pfam; PF00405; Transferrin; 1.
PRINTS; PR00422; TRANSFERRIN.
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GO:0008199; F:ferric iron binding; IEA
GO:0006879; F:iron ion homeostasis; IE
GO:0006826; P:iron ion transport; IEA.
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16; Conserv
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81 AA;
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81 AA;
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                                                                                                                                                                                            Conservative
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Pred. No. 1.
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Pred. No. 7
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1.1e-05;
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               (Siderophilin) (Beta-1-metal
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REPEAT
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CHAIN
REPEAT
                                                                                                                                                                                                                                                                                                                      PRINTS; PRO0402; TRANSFERRIN.

SMART; SM00094; TR_PER; 2.

PROSITE; PS00205; TRANSFERRIN 1; 1.

PROSITE; PS00206; TRANSFERRIN 2; 2.

PROSITE; PS00207; TRANSFERRIN 3; 1.

Glycoprotein; Iron transport; Metal-binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Entropean Bioinformatics Institute. There are no restue by non-profit institutions as long as its content use by non-profit institutions as long as its content use by non-profit institutions as long as its content use by non-profit institutions as long as its content use by non-profit institutions as long as its content use by non-profit institutions as long as its content use by non-profit institutions as long as its content use by non-profit institutions as long as its content use of the profit is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=96132861; PubMed=8557646; DOI=10.1074/jbc.271.2.1166; Retzer M.D., Kabani A., Button L.L., Yu R.H., Schryvers A.B.; "Production and characterization of chaeric transferrins for the determination of the binding domains for bacterial transferrin receptors.";
J. Biol. Chem. 271:1166-1173(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                        entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; U02564; AAA96735.1; -. HSSP; P09571; 1H76.
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Mammalia; Eutheria;
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Fam, PF00405; Transferrin; 2.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            can bind two atoms of ferric iron in association with the binding of an anion, usually bicarbonate. It is responsible for the transport of iron from sites of absorption and heme degradation to those of storage and utilization. Serum transferrin may also have a further role in stimulating cell proliferation.

SUBUNIT: Monomer (By similarity).

SUBCELLULAR LOCATION: Secreted.

TISSUE SPECIFICITY: Expressed by the liver and secreted in plasma. DOMAIN: Composed of two homologous domains.

SIMILARITY: Belongs to the transferrin family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FUNCTION: Transferrins are iron binding transport proteins can bind two atoms of ferric iron in association with the k
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (Bovine)
  Chordata; Craniata; Vertebrata; Euteleostomi; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
          Iron
Iron
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SEQUENCE
                 Evans R.W., Aitken A., Patel K.J.;
"Evidence for a single glycan moiety
location of the glycan within the pol
PEBS Lett. 238:39-42(1988)
                                                                                     Biol.
                                                                                                                                                                                                                                   Banfield D.K., Chow B.K.-C., Funk W.D., Robertson K.A., Umel Woodworth R.C., Macgillivray R.T.A.; "The nucleotide sequence of rabbit liver transferrin cDNA."; Biochim. Biophys. Acta 1089:262-265(1991).
                                                                                                                                                                                                                                                                                                                                                            TRFE RABIT STANDARD; PRT; 695 AA. P19134; O46514; O1-NOV-1990 (Rel. 16, Created) 15-JUL-1999 (Rel. 38, Last sequence update) 25-OCT-2004 (Rel. 45, Last annotation update) Serotransferrin precursor (Transferrin) (Side binding globulin).
                                                                                                                                                               "Cloning and gene.";
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Houdebine L.M.;
                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa;
Mammalia; Eutheria;
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X-RAY CRYSTALLOGRAPHY (3.3 ANGSTROMS).
                                                       SEQUENCE OF 483-545.
MEDLINE-89005676; PubMed=3169252; DOI=10.1016/0014-5793(88)80221-7;
                                                                                                                Godovac-Zimmermann
                                                                                                                                     SEQUENCE OF
                                                                                                                                                        Submitted (OCT-1997)
                                                                                                                                                                                                       STRAIN=New
                                                                                                                                                                                                                 SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                             Oryctolagus cuniculus (Rabbit).
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                                                                                                                                                                                                                                                                        MEDLINE=91274362; PubMed=2054387;
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EMBL; AF031613; AAB94136.1; JOINED

EMBL; AF031614; AAB94136.1; JOINED

EMBL; AF031615; AAB94136.1; JOINED

EMBL; AF031616; AAB94136.1; JOINED

EMBL; AF031619; AAB94136.1; JOINED

EMBL; AF031629; AAB94136.1; JOINED

EMBL; AF031620; AAB94136.1; JOINED

EMBL; AF031621; AAB94136.1; JOINED

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EMBL; AF031622; TAB94136.1; JOINED

EMBL; AF031623; TAB94136.1; JOINED

EMBL; AF031623; TAB94136.1; JOINED

EMBL; AF031624; TABB94136.1; JOINED

PRAIT; SMO0094; TRANSFERRIN

2.

PROSITE; PS00206; TRANSFERRIN 2; 2.

PROSITE; PS00206; TRANSFERRIN 3; 2.
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Sarra R., Garratt R.C., Gorinsky B., Jhoti H., Lindley P.F.;

"High-resolution X-ray studies on rabbit serum transferrin:

preliminary structure analysis of the N-terminal half-molecule
A resolution.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE-89026775; PubMed-3179277;
Bailey S., Evans R.W., Garratt R.C., Gorinsk
Horsburgh C., Jhoti H., Lindley P.F., Mydin
"Molecular structure of serum transferrin at
Biochemistry 27:5804-5812(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a further role in stimulating cell proliferatio SUBUNIT: Monomer.
SUBCELLULAR LOCATION: Secreted.
TISSUE SPECIFICITY: Expressed by the liver and DOMAIN: Composed of two homologous domains.
SIMILARITY: Belongs to the transferrin family.
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FUNCTION: Transferrins are iron binding transport proteins which can bind two atoms of ferric iron in association with the binding of an anion, usually bicarbonate. It is responsible for the transport of iron from sites of absorption and heme degradation to those of storage and utilization. Serum transferrin may also have a further role in stimulating cell proliferation.
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A., Sarra R., Watson
t 3.3-A resolution.";
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                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.
MEDLINE=97254619; PubMed=9100029; DOI=10.1021/bi9627424;
Muebbens M.W., Roush E.D., Decastro C.M., Fierke C.A.;
"Cloning, sequencing, and recombinant expression of the porcine inhibitor of carbonic anhydrase: a novel member of the transferrin
  PRINTS; PR00422; TRANSFERRIN.
SMART; SM00094; TR FER; 2.
PROSITE; PS00205; TRANSFERRIN
                                                      EMBL; U36916; AAB58956.1;
PIR; I47228; I47228.
HSSP; P09571; 1476.
                                                                                                   entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                  InterPro; IPR001156; Peptidase_S60 Pfam; PF00405; Transferrin; 2.
                                                                                                                                                                                                                                                                                                                          CHARACTERIZATION.
MEDLINE-93099129; PubMed=1463741;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sus scrofa (Pig).
Eukaryota, Metazoa,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Name=ICA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15-JUL-1999 (Rel. 38, Created)
15-JUL-1999 (Rel. 38, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Inhibitor of carbonic anhydrase precursor.
                                                                                                                                                                                                                                                -1- SUBUNIT: Monomer.
                                                                                                                                                                                                                                                                                                                 Roush E.D., Fierke C
                                                                                                                                                                                                                                                                                                                                                            Biochemistry 36:4327-4336(1997).
                                                                                                                                                                                                                                                                                                                                                                         family.
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                                                                                                                                                                                    PTM: N-glycosylated.
SIMILARITY: Belongs to the transferrin family.
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TISSUE SPECIFICITY: Plasma.
DOMAIN: Composed of two homologous
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TRANSFERRIN_1; 2.
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Best Local :
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Q7TSX8;
01-OCT-2003
01-OCT-2003
01-MAR-2004
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                                                               HSSP; P19134; IJNF.
GO: GO:0005576; C:extracellular; IEA.
GO: GO:0008199; F:ferric iron binding; IEA.
GO: GO:0006879; P:iron ion homeostasis; IEA.
GO: GO:0006872; P:iron ion transport; IEA.
GO: GO:0006810; P:transport; IEA.
InterPro; IPR001156; Peptidase_S60.
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REPEAT
REPEAT
       Pfam; PF00405; Transferrin; 2.

SMART; SM00094; TR FER; 2.

PROSITE; PS00205; TRANSFERRIN 1;

PROSITE; PS00206; TRANSFERRIN 2;

PROSITE; PS00207; TRANSFERRIN 3;

Iron transport; Metal-binding; Tr
                                                                                                                            Rinaudo J.A.S., Gerin J.L.;
Submitted (APR-2003) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: Transferrins are iron binding transport probind ferric iron in association with the binding of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROSITE; PS00206; TRANSFERRIN_2; 1.
PROSITE; PS00207; TRANSFERRIN_3; 2.
Direct protein sequencing; Glycopro
SIGNAL 1 19 Potent
                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                NCBI_TaxID=9995;
                                                                                                                                                                                                                                                                                Eukaryota, Metazoa,
                                                                                                                                                                                                                                                                                                   Transferrin.
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 SEQUENCE
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                                                                                                                                                                                                                                                              Marmota
                                                                                                                                                                                                                                                                    Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                          Marmota monax (Woodchuck)
                                                                                                                                                                                                                                                                                                                                                                                                     270
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Rodentia;
76466 MW;
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88.2%;
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Last annotation update)
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 Transport.
40053F7DC1CFCA87 CRC64;
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AC Q9TUMO; Q9MZS5;
DT 16-OCT-2001 (Rel. 40, Last sequent of 16-OCT-2004 (Rel. 45, Last annot; DE 16-OCT-2004 (Rel. 46, Last an
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Best Local S
Matches 14
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EMBL; AF165879; AAF82241.1; -.
PDB; IDTZ; X.-ray; A=20-708.
InterPro; IPRO0156; Peptidase S60.
Pfam; PF00405; Transferrin; 2.
PRINTS; PR00422; TRANSFERRIN 2.
PROSITE; PS00205; TRANSFERRIN 1; 2.
PROSITE; PS00206; TRANSFERRIN 2; 2.
PROSITE; PS00206; TRANSFERRIN 2; 2.
PROSITE; PS00206; TRANSFERRIN 3; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.

STRAIN-Somall; TISSUE=Lactating mammary gland;
Kappeler S.R., Ackermann M., Farah Z., Puhan Z.;
"Sequence analysis of camel (Camelus dromedarius)
Int. Dairy J. 9:481-486(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SIMILARITY: Belongs to the transferrin family.
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Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus.
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Lactotransferrin.

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; transport; Metal-binding; Repeat;
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Iron 2 (By similarity).
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Carbonate 2 (via amide n similarity).
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Carbonate 2
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Best Local S
Matches 14
                                              ch 83.7%;
1 Similarity 82.4%;
14; Conservative
1 VVARSMGGKEDLIWELL 17
                                                Score 72; D
Pred. No. 0.
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0.0016;
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                    Indels
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Matches 14
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Noble M.S., Hurley W.L.;

Noble M.S., Hurley W.L.;

Submitted (DEC-1996) to the EMBL/GenBank/DDBJ databases.

Submitted (DEC-1996) to the EMBL/GenBank/DDBJ databases.

C --- FUNCTION: Transferrins are iron binding transport proteins which compared to the compared to the binding of an anion,

C --- SIMILARITY: Belongs to the transferrin family.

C --- SIMILARITY: Belongs to the transferrin family.

EMBL; U82254; AAB52030.1; ---

DR GG; GO:0005576; C:extracellular; IEA.

GG; GO:0005576; C:extracellular; IEA.

GG; GO:000599; F:transcription factor activity; IEA.

GG; GO:0006059; P:iron ion transport; IEA.

GG; GO:0006055; P:regulation of transcription, DNA-dependent; IEA.

CO; GO:0006055; P:regulation of transcription, DNA-dependent; IEA.

CO; GO:00060510; P:transport; IEA.
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Q6LC78;
Q6LC78;
05-JUL-2004 (TrEMBLrel.
05-JUL-2004 (TrEMBLrel.
05-JUL-2004 (TrEMBLrel.
Lactoferrin (Fragment).
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O6LBN7
O5LBN7;
O5-JUL-2004 (TEMBLrel 27,
O5-JUL-2004 (TEMBLrel 27,
O5-JUL-2004 (TEMBLrel 27,
SEQUENCE FROM N.A.
TISSUE-Mammary;
MEDLINE=91088328; PubMed=2263492;
Mead P.E., Tweedie J.W.;
                                                                                                                      Eukaryota; Metazoa;
Mammalia; Eutheria;
Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Iron transport; Metal-binding;
NON TER 1 1 1 1 NON TER 117 117 SEQUENCE 117 AA; 13206 MW;
                                                                                                                                                                                   Bos taurus (Bovine).
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Mammalia; Eutheria;
                                                                                                 NCBI_TaxID=9913;
                                                                                                                                                                                                      Lactoferrin (Fragment).
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InterPro; IPR001156; Peptidase_S60.
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Similarity 82.4%; Pred.
14; Conservative 2; Mis
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Mismatches 1
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RESULT 15
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P2467; Q29629; Q9MZY3;

01-MAR-1992 (Rel. 27, Last sequence update)

01-OCT-1993 (Rel. 27, Last annotation update)

25-OCT-2004 (Rel. 45, Last annotation update)

ractotransferrin precursor (Lactoferrin) [Con
TISSUE=Lung;
Teang T.C., F
                                                                                                                      MEDLINE=92028986; PubMed=1718281; Goodman R.E., Schanbacher F.L.; "Bovine lactoferrin mRNA: sequence mammary gland."; "Biochem. Biophys. Res. Commun. 18
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SMART; SM00094; TR FER; 2.
PROSITE; PS00205; TRANSFERRIN 1; 2.
PROSITE; PS00206; TRANSFERRIN 3; 2.
PROSITE; PS00207; TRANSFERRIN 3; 2.
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GO; GG
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TISSUE=Submaxillary gland;
MEDLINE=91160550; PubMed=2001696;
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GO; GO:0008199; F:ferric iron binding; IEA
GO; GO:0006879; P:iron ion homeostasis; IE
GO; GO:0006826; P:iron ion transport; IEA.
InterPro; IPR001156; Peptidase_S60.
Pfam; PF00405; Transferrin; 2.
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Nucleic Acids Res. 18:7167-7167(1990).
[2]
SEQUENCE FROM N.A.
                                                                      SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                      SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                          Montreuil J., Spik "Molecular cloning
                                                                                                                                                                                                                                                                                                                                                                                                                                          Pierce A.,
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J., Spik G.,
cloning and sequence analysis
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P STRUCTURE BY NMR OF 36-60.

X MEDLINE-98190007; PubMed-9521752; DOI=10.1021/bi972323m; X MEDLINE-98190007; PubMed-9521752; DOI=10.1021/bi972323m; X MEDLINE-98190007; PubMed-9521752; DOI=10.1021/bi972323m; X Medium Structure of Lactoferricin B, ar "Three-dimensional solution structure of Lactoferricin B, ar antimicrobial peptide derived from bovine lactoferrin."; Biochemistry 37:4288-4298(1998).

C -!- FUNCTION: Transferrins are iron binding transport proteican bind two atoms of ferric iron in association with the can bind two atoms of ferric iron in association with the of an anion, usually bicarbonate.

C -!- FUNCTION: Lactotransferrin has antimicrobial activity. Teffective inhibitory activity was seen against E.coli ar P.aeruginosa.
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[4]
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MEDLINE=94266164; PubMed=8206385; DOI=10.1016/0378-1119(94)90108-2;
Seyfert H.-M., Tuckoricz A., Interthal H., Koczan D., Hobom G.;
"Structure of the bovine lactoferrin-encoding gene and its promoter Gene 143:265-269(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                X-RAY CRYSTALLOGRAPHY (2.8 ANGSTROMS).

MEDLINE=98062367; PubMed=9398529; DOI=10.1006/jmbi.1997.1386;

MOOTE S.A., Anderson B.F., Groom C.R., Haridas M., Baker E.N.;

"Three-dimensional structure of diferric bovine lactoferrin at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hoek K.S., Milne J.M., Grieve P.A., Dionysius D.A., Smith "Antibacterial activity in bovine lactoferrin-derived pep. Antimicrob. Agents Chemother. 41:54-59(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=90031466; PubMed=2805645;
Rejman J.J., Hegarty H.M., Hurley W.L.;
"Purification and characterization of boving secretions of the involuting mammary gland:
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Kutila T., Pyora
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ASEB J. 6:233-233(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Outila T., Pyorala S., Saloniemi H., Kaartinen Antibacterial effect of bovine lactoferrin ag
                                                                                                                                                                                                             DOMAIN: Composed of two homologous domains. SIMILARITY: Belongs to the transferrin family.
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                                                                                                                                                 European Bioinformatics Institute.
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                                                                                                                                                                                                                                                                    the growth of Gram-negative SUBUNIT: Monomer.
                                                                                                                               SWISS-PROT entry is copyright. It is produced through a collaboratic een the Swiss Institute of Bioinformatics and the EMBL outstation European Bioinformatics Institute. There are no restrictions on it by non-profit institutions as long as its content is in no war by non-profit institutions as long as its content is in no war by non-profit institutions.
X57084;
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; CAA40366.1; -.; AAA30617.1; -.; AAA30609.1; -.; AAA321722.1; -.;
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DR EMBL; L19982; AAA21722.1; JOINED.

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I-> V (in Ref. 1 and 4).
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ALIGNMENTS

## 05-JUL-2002; 2002DE-01030550. antibody; carbohydrate-deficient transferrin; CDT; non-glycosylated transferrin; alcoholism; alcoholic; Human CDT peptide Althaus H; 19-MAY-2003; 2003EP-00011334. 07-JAN-2004. EP1378521-A1. Homo sapiens. 25-MAR-2004 ADG46075; ADG46075 standard; peptide; 17 (DADE-) DADE (first BEHRING MARBURG GMBH fragment entry) 世. ₿ diagnosis;

This invention describes a novel antibody that, in aqueous solution, binds selectively to carbohydrate-deficient transferrin (CDT) without having to bind CDT to a solid phase. The invention also describes an antibody that binds selectively to CDT at regions containing the sequences VVARSMGGKEDLIWELL, TTEDSIAKIMNGRAMSLUGGF, SKLSMGSGLNUSEPN SEGUENCES VVARSMGGKEDLIWELL, TTEDSIAKIMNGRAMSLUGGF, SKLSMGSGLNUSEPN SYEKYLGEEVVKAV (ADG46075)-ADG46078) and an immunoassay for detecting CDT using the antibodies of the invention. The antibodies of the invention are monoclonal, specifically from hybridomas DSM ACC2540 or 2541. The antibodies are obtained by immunisation with non-glycosylated transferrin, or a fragment, then generation of hybridomas by standard fusion of spleen and myeloma cells. Hybridomas are then selected for production of antibodies that specifically bind CDT from the aqueous by the control of antibodies that specifically bind CDT from the aqueous by the control of antibodies that specifically bind CDT from the aqueous because the control of antibodies that specifically bind CDT from the aqueous by the control of antibodies that specifically bind CDT from the aqueous because the control of antibodies that specifically bind CDT from the aqueous because the control of antibodies that specifically bind CDT from the specifically bind CDT from the specific because the control of the control of

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phase. The antibodies are useful for diagnosis of alcoholism,

CDT, which

New antibody specific for carbohydrate-deficient transferrin, useful for diagnosis of alcoholism, can bind its target in solution, eliminating need for immobilization.

WPI; 2004-073743/08.

Claim 4; SEQ ID NO 1; 21pp; German.

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This invention describes a novel antibody that, in aqueous solution, CC binds selectively to carbohydrate-deficient transferrin (CDT) without CDT having to bind CDT to a solid phase. The invention also describes an CC antibody that binds selectively to CDT at regions containing the CDT sequences VVARSWGGKEDLIWELL, TEDSIAKINGEADAMSLDGGF, SKLSWGSGIALSEN and CC YEKYLGEEYVKAV (ADG46075-ADG46078) and an immunoassay for detecting CDT using the antibodies of the invention. The antibodies of the invention CC are monoclonal, specifically from hybridomas DBM ACC2540 or 2541. The CC antibodies are obtained by immunisation with non-glycosylated CC transferrin, or a fragment, then generation of hybridomas by standard CC fusion of spleen and myeloma cells. Hybridomas are then selected for CC phase. The antibodies that specifically bind CDT from the aqueous CC phase. The antibodies are useful for diagnosis of alcoholism, CDT, which CC alcabelies. The antibodies allow direct detection of CDT in solution, CCC alcabelies. The antibodies allow direct detection of CDT in solution, CCC alignment for head for immohilising it on a solid hase (as remirred
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New antibody specific for carbohydrate-deficient transferrin, useful idiagnosis of alcoholism, can bind its target in solution, eliminating need for immobilization.
eliminating the need for immobilising it on a solid phase (as required when using known antibodies). ADG46075-ADG46094 represent CDT peptide fragments used in the method of the invention.
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non-glycosylated transferrin; alcoholism; alcoholic; diagnosis; human.
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                                                                                                                                                                                                                                         CC binds selectively to carbohydrate-deficient transferrin (CDT) without CC having to bind CDT to a solid phase. The invention also describes an CC antibody that binds selectively to CDT at regions containing the CC sequences VVARSWGGKEDLIWELL, TTEDSIAKIMNGEADAMSLDGGF, SKLSWGGKLNLSEPN and CC YEKYLGEEYVKAV (ADG46075-ADG46078) and an immunoassay for detecting CDT CC using the antibodies of the invention. The antibodies of the invention are monoclonal, specifically from hybridomas DSM ACC2540 or 2541. The CC antibodies are obtained by immunisation with non-glycosylated CC transferrin, or a fragment, then generation of hybridomas by standard CC fusion of spleen and myeloma cells. Hybridomas are then selected for production of antibodies that specifically bind CDT from the aqueous CC phase. The antibodies are useful for diagnosis of alcoholine, CDT, which CC lacks glycosylation at Asn413 and/or Asn 611, is present only in CC eliminating the need for immobilising it on a solid phase (as required CC when using known antibodies). ADG46075-ADG46094 represent CDT peptide CC fragments used in the method of the invention.
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non-glycosylated transferrin; alcoholism; alcoholic;
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      տ
                                                               l Similarity
13; Conserv
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SMGGKEDLIWELL 17
                                                            80.2%; Score 69; llarity 100.0%; Pred. No. Conservative 0; Mismatci
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Conservative (
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100.0%; Pred. No. 9.9e-05;
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                                                                                            DB 8; Lt
                                                                                                                      Length 13;
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                                                                   Indels
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ADR15903
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Best Local S
Matches 8
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glycosylation; proteolytic enzyme; proteolysis; detection; transferrin.
                            Transferrin peptide fragment #121.
                                                                                                                                                                                                                                                                                                                      Sequence 17 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Assay for differentiating protein isoforms to determine their concentrations in sample e.g. blood, involves contacting the sample with proteolytic enzyme to produce peptide fragment by proteolysis followed by
                                                              04-NOV-2004
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                                                                                                                                                                                                                                                           Conservative
                                                            (first entry)
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Pred. No. 4.5;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Assay for differentiating protein isoforms to determine their concentrations in sample e.g. blood, involves contacting the sample with proteolytic enzyme to produce peptide fragment by proteolysis followed by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 17 AA;
                                                                                   30-SEP-2004
                                                                                                                                                                      rheumatoid arthritis; marker; antiinflammtory; antiarthritic
                                                                                                                                                                                                                              16-DEC-2004
                                                                                                                                                                                                                                                                                    ADS13216 standard;
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                        14-MAR-2003; 2003US-0455037P
                                                      15-MAR-2004; 2004WO-US007880
                                                                                                                                         Homo sapiens
                                                                                                                                                                                                 Human rheumatoid arthritis marker peptide - SEQ ID 7.
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Pred. No.
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                                                                                             WPI;
treatment of vaccination.
                   Novel immunomodulatory peptide(s) and nucleic treatment of auto:immune diseases, transplant
                                                                                                                                                                                                                                                              11-AUG-1992;
15-JUN-1993;
                                                                                                                                                                                                                                                                                                                                11-AUG-1993;
                                                                                                                                                                                                                                                                                                                                                                               03-MAR-1994.
                                                                                                                                                                                                                                                                                                                                                                                                                              WO9404171-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Naturally-occuring; immunomodulatory protein; human; therapy; class I; major histocompatibility complex; class II; allotype; type I diabetes; autoimmune disease; rheumatoid arthritis; T-cell-mediated response; mutiple sclerosis; transplant rejection; vaccine; MHC.
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93US-00077255
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                                                                                                                                                                  RM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           position 261-273.
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Pred. No.
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The sequences given in AAR49291-505 and AAR46981-7038 represent peptide fragments of naturally-occuring immunomodulatory proteins. These fragments are between 10-30 residues in length and bind to a human major histocompatibility complex (MHC) class II allotype. These peptides may be used for therapy of autoimmune diseases, such as type I diabetes, rheumatoid arthritis and mutiple sclerosis, and to reduce transplant rejection. They may also be used for vaccination providing an exclusivel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The sequences given in AAR49291-505 and AAR46981-7038 represent peptide fragments of naturally-occuring immunomodulatory proteins. These fragments are between 10-30 residues in length and bind to a human major histocompatibility complex (MHC) class II allotype. These peptides may be used for therapy of autoimmune diseases, such as type I diabetes, rheumatoid arthritis and mutiple sclerosis, and to reduce transplant rejection. They may also be used for vaccination providing an exclusively r-cell-mediated response, which can be class I or class-II based, or both, depending on the length and character of the immunogenic peptides. (Updated on 25-MAR-2003 to correct PN field.) (Updated on 25-MAR-2003 to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Naturally-occuring; immunomodulatory protein; human; therapy; major histocompatibility complex; class II; allotype; type I of autoimmune disease; rheumatoid arthritis; T-cell-mediated respansions.
                                                                                                                                                                                                                                                                                                                           Novel immunomodulatory peptide(s) treatment of auto:immune diseases,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Strominger JL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Urban RG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              mutiple sclerosis; transplant rejection; vaccine; MHC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bovine transferrin position
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                                                                                                                                                                                                                                      Disclosure; Page 49; 139pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        11-AUG-1992;
15-JUN-1993;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DVIWELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chicz RM,
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(first entry)
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93US-00077255.
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85.7%;
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Pred. No. 73;
1; Mismatches
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                                                                                                                                                                                                                                                                                                                                                         - useful for
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Matches 6
                                                                                    The sequences given in AAR49291-505 and AAR46981-7038 represent peptide fragments of naturally-occuring immunomodulatory proteins. These fragments are between 10-30 residues in length and bind to a human major histocompatibility complex (MHC) class II allotype. These peptides may be used for therapy of autoimmune diseases, such as type I diabetes, rheumatoid arthritis and mutiple sclerosis, and to reduce transplant rejection. They may also be used for vaccination providing an exclusively T-cell-mediated response, which can be class I or class-II based, or both, depending on the length and character of the immunogenic peptides. (Updated on 25-MAR-2003 to correct PN field.) (Updated on 25-MAR-2003 to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Naturally-occuring; immunomodulatory protein; human; therapy; class I; major histocompatibility complex; class II; allotype; type I diabetes; autoimmune disease; rheumatoid arthritis; T-cell-mediated response;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    T-cell-mediated response, which can be class I or class-II based, or both, depending on the length and character of the immunogenic peptides. (Updated on 25-MAR-2003 to correct PN field.) (Updated on 25-MAR-2003 to
                                                                                                                                                                                                                                                                                                                                           Urban RG, Chicz RM,
Strominger JL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         both, depending on the 1 (Updated on 25-MAR-2003 correct PR field.)
                                                   Sequence 15
                                                                                                                                                                                                                                       Disclosure;
                                                                                                                                                                                                                                                                           Novel immunomodulatory peptide(s) and nucleic treatment of auto:immune diseases, transplant
                                                                                                                                                                                                                                                                                                                     WPI; 1994-082825/10
                                                                                                                                                                                                                                                                                                                                                                                                               11-AUG-1992;
15-JUN-1993;
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16-SEP-1994
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Similarity
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                                                                             field.)
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93US-00077255.
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85.7%;
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Score 35; DB
Pred. No. 85;
1; Mismatches
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Pred. No. 85;
1; Mismatches
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RESULT 11

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RESULT 10
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Matches 5
                                                                                                                            The present invention relates to novel human cancer-related genes and proteins (ABZ78120-ABZ78168 and ABR01789-ABR01861). The genes and proteins are useful for eliciting a humoral or cellular immune response. The genes are useful as probes and primers for the amplification and/or detection of genes, mRNAs or their fragments, as reagents for the diagnosis and/or prognosis of cancer, as coding sequences capable of directing the expression of the protein, as tools for modulating or inhibiting the expression of genes and/or translation of transcripts, and as therapeutic agents. The proteins and peptides are useful as therapeutic prognostic and diagnostic reagents for cancer. The present sequence is a human leukocyte antigen (HLA) peptide, used in an example
                                                                                                                                                                                                                                                                                                                    New composition comprising a substance that modulates proteins and polynucleotides, useful for therapeutic, diagnostic reagents for eliciting cellular or humoral
                                                                                                                                                                                                                                                                                                                                                                        WPI;
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10-APR-2001; 2001US-0283112P
25-APR-2001; 2001US-0286630P
                                                                                               Sequence 15
                                                                                                                                                                                                                                                                                   Claim
                                                                                                                                                                                                                                                                                                          cancer patients.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24-OCT-2002.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human; cytostatic; vaccine; cancer;
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                                                                                                                                                                                                                                                                                                                                                                        2003-075555/07.
                                                                                                                                                                                                                                                                                 13; Page 470;
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                                                           39.5%;
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                                              Score 34; DB
Pred. No. 1.3e
1; Mismatches
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                                          DB 6; 1.3e+02; 6;
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                                                                                                                                                                                                                                                                         expression or identifying an agent capable of modulating the expression or activity of the TRPI or a TRPI-related polypeptide; a pharmaceutical composition comprising the TRPI citted above or an active agent that modulates the expression and/or activity of the TRPI or a TRPI related polypeptide; and treating chronic tissue damage. The novel compositions have antiulcer and vulnerary activity. The composition and methods are useful for disposing, preventing, prognosing and treating chronic tissue damage, such as a chronic dermal ulcer. These may also be useful for drug screening or drug development, or for screening or identifying agents capable of modulating the activity of TRPI or TRPI-related polypeptides. This sequence represents a TRPI derived human tryptic digest peptide. The peptide was produced by proteolysis using trypsin of a tissue repairassociated protein isoform of the invention.
                   ABP63629 standard; peptide; 13 AA
                                                                                                                                                                                                                                            Sequence 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to a novel method for assessing, screening, diagnosing or prognosing chronic tissue damage in a subject, identifying a subject at risk of developing chronic tissue damage, or monitoring the effect of therapy administered to a subject having chronic tissue damage. The method comprises detecting and/or quantifying in a biological sample from the subject a tissue repair-associated protein isoform (TRPI), given in the specification. The invention further comprises an isolated or recombinant TRPI selected from the proteins listed in the specification;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 7; SEQ ID NO 25; 107pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Diagnosing, or monitoring the effect of therapy of, chronic tissue damage (e.g. chronic dermal ulcer) comprises detecting and/or quantifying Tissue Repair-Associated protein isoform in a sample (e.g. wound exudate) from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   proteolysis; trypsin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Tissue damage; chronic; tissue repair-associated protein isoform; TRPI; antiulcer; vulnerary; chronic dermal ulcer; human; tryptic digest;
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OXFORD
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                                                                                                                                                                           Conservative
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GLYCOSCIENCES UK LTD.
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                                                                                                                                                                         Score 33; DB
Pred. No. 1.8e
0; Mismatches
                                                                                                                                                                         <u>,,</u>
                                                                                                                                                                                          1.8e+06;
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RESULT 13
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Matches 4
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                                                                                           Human; obesity; leptin; T-cell epitope; diabetes; high blood pressure; cholesterol metabolism; MHC class II.
                                                                                                                                                         05-NOV-2002
                                                                                                                                                                                                                                                                                                                                                                Sequence 13 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the immune characteristic is modified numbers of potential T-cell epitopes.
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19-FEB-2001;
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                      15-AUG-2002.
                                             WO200262833-A2
                                                                      Homo sapiens.
                                                                                                                              Human MHC class II binding peptide #49
                                                                                                                                                                                ABP63628;
                                                                                                                                                                                                      ABP63628 standard;
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2001EP-00103954.
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                                                                                                                                                                                                     peptide;
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Pred. No. 1.6e
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RESULT 14
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ID ABP63
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                                         Modified forms of human obesity protein, the immune characteristic is modified by numbers of potential T-cell epitopes.
                                                                                                                                                                                                                                                                                                                                                               Human; obesity; leptin; T-cell epitope; diabetes; high blood pressure; cholesterol metabolism; MHC class II.
                                                                                                                                                                                                                                                                                                                                                                                                           Human MHC class II binding peptide #48
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19-FEB-2001; 2001EP-00103954
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19-FEB-2001; 2001EP-00103954
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4; Conserv
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Pred. No. 1.6e
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Claim 6; Page 11; 32pp;

English

Sequence 13 AA,

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                      The invention relates to an immunogenically modified fusion protein derived from a parent fusion protein, comprising first and second proteins/polypeptides, where the first protein is an immunoglobulin molecule or its fragment and the second protein is an immunoglobulin target polypeptide each linked to the other directly or by a linker molecule. The immunogenically modified fusion protein is useful in combining known favourable properties of a composition or in creating new properties of a composition which elicits biological or pharmacological efficacy without having undesirable physiological effects such as nausea or gastric upset. The present sequence is human obesity protein (leptin) peptide with potential major histocompatability complex (MHC) binding activity. This sequence is used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            activity of human obesity protein (leptin) which is substantially non-immunogenic or less immunogenic than any non-modified molecule with the same biological activity when used in vivo. The immune characteristic of the protein is modified by means of reduced/removed numbers of potential T-cell epicopes. The modified proteins have therapeutic potential for the treatment of diabetes, high blood pressure, and cholesterol metabolism. The sequence represents a peptide of the invention contained in human leptin with potential human MHC class II binding activity
                                                                                                                                                                                                                                                                                      New modified fusion protein with reduced immunogenicity, used combining favorable properties of a composition, comprises immunoglobulin molecule linked to a non-immunoglobulin tary
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05-APR-2001; 2001EP-00108291
                                                                                                                                                                                                                                        Example 2; Page
                                                                                                                                                                                                                                                                       polypeptide
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Query Match

Best Local Similarity 40.0%; Pred. No. 1.6e+02;
Matches 4; Conservative 4; Mismatches 2; Indels 0; Gaps 0;

Qy 7 GGKEDLIWEL 16
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Search completed: November 1, 2005, 13:28:55
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Match
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1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*

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    GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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US-08-475-399A-196
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US-08-480-379-136
US-08-480-379-136
US-08-480-399A-136
US-08-480-190-273
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US-08-480-399A-273
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US-08-475-399A-273
US-08-77-255A-273
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Sequence 196, App
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Sequence 273, App
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Sequence 20, Appli
Sequence 47, Appli
Sequence 47, Appli
Sequence 33, Appl
Sequence 39, Appl
Sequence 39, Appl
Sequence 66, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                            Description
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RESULT 1  US-08-480-190-196 US-08-480-199-196 US-08-480-199-196 US-08-480-199 US-08-480-199-196 US-08-480-199-196	28 27 31.4 12 2 US-08-466-860-4 29 27 31.4 12 3 US-08-472-040A-4 30 27 31.4 12 3 US-08-471-209-4 31 27 31.4 12 3 US-08-471-209-4 31 27 31.4 15 4 US-09-255-501-147 34 27 31.4 15 4 US-09-255-501-148 35 27 31.4 15 4 US-09-255-501-149 36 27 31.4 15 4 US-09-60-872A-146 37 27 31.4 15 4 US-09-60-872A-147 38 27 31.4 15 4 US-09-60-872A-147 38 27 31.4 15 4 US-09-60-872A-148 39 27 31.4 15 4 US-09-60-872A-148 40 27 31.4 15 4 US-09-60-872A-148 41 27 31.4 15 4 US-09-60-135C-147 42 27 31.4 15 4 US-09-500-135C-148 43 27 31.4 15 4 US-09-500-135C-148 43 27 31.4 15 4 US-09-500-135C-148 43 27 31.4 15 4 US-09-500-135C-148 44 26.5 30.8 11 1 US-08-471-058-3 45 26.5 30.8 11 3 US-08-471-057-3
	Sequence 4, Appli Sequence 4, Appli Sequence 4, Appli Sequence 146, App Sequence 147, App Sequence 149, App Sequence 149, App Sequence 149, App Sequence 147, App Sequence 148, App Sequence 148, App Sequence 148, App Sequence 148, App Sequence 148, App Sequence 149, App Sequence 3, Appli Sequence 3, Appli

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US-08-475-399A-196
US-08-475-399A-196
; Sequence 196, Application US/08475399A
; Patent No. 6509033
; GENERAL INFORMATION:
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US-08-488-379-196
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                                                                                                                                                                                                                                                          US-08-488-379-196
                                                                                                                                                                                                                                                                                                                            CLASSIFICATION: 514

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 08/077,255

FILING DATE: June 15, 1993

APPLICATION NUMBER: 07/925,460

FILING DATE: August 11, 1992

ATTORNEY,AGENT INFORMATION:

NAME: Clark, Paul T.

REGISTRATION NUMBER: 00246/168001

REFERENCE/DOCKET NUMBER: 00246/168001

TELECOMMUNICATION INFORMATION:

TELEPAN: (617) 542-8906

TELEFAN: (617) 542-8906

TELEX: 200154

INFORMATION FOR SEQ ID NO: 196:
SEQUENCE CHARACTERISTICS:

LENGTH: 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 15
                                                                                                                                                                                   Matches
                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION: APPLICANT: Robert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 50Z or 55SX
OPERATING SYSTEM: MS-DOS (Version 5.0
SOFTWARE: WordPerfect (Version 5.1)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/488,379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Roman M. Chicz
APPLICANT: Dario A. A. Vignali
APPLICANT: Mary L. Hedley
APPLICANT: Lawrence J. Stern
APPLICANT: Jack L. Strominger
TITLE OF INVENTION: IMMUNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 274
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY: Boston
STATE: Massachus
COUNTRY: U.S.A.
ZIP: 02110-2804
                                                                                                                                                                                     Local Similarity hes 6; Conserv
                                                                                                                                                                                                                                                                                     STRANDEDNESS:
                                                                                                                                                                                                                                                                                                          TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
                                                                                                                                                                                                                                                                            POPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE:
                                                                                                                                                                                                                                                                                                                           ENGTH:
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10. 5880103
                                                                                                                                                   11 DLIWELL 17
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225 Franklin Street
                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Robert G. Urban
                                                                                                                                                                                                                                                                         linear
                                                                                                                                                                                                     40.7%;
85.7%;
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                                                                                                                                                                                       1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 35; DB 2;
Pred. No. 13;
                                                                                                                                                                                                         Score 35; DB
Pred. No. 13;
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                                                                                                                                                                                                                         DB 2;
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                                                                                                                                                                                       Gaps
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                                                                                                                                 GENERAL INFORMATION:

APPLICANT: Robert G. Urban
APPLICANT: Roman M. Chicz
APPLICANT: Dario A. A. Vignali
APPLICANT: Mary L. Hedley
APPLICANT: Lawrence J. Stern
APPLICANT: Lawrence J. Stern
APPLICANT: Jack L. Strominger
TITLE OF INVENTION: IMMUNOMODULL
NUMBER OF SEQUENCES: 274
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 6
                                                                                                                                                                                                                                                                                     Sequence 196, Application US/08077255A Patent No. 6696061
                                                                                                   CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET:
                                                     CITY: Boston
STATE: Massac
                     COUNTRY: U.S.A. ZIP: 02110-2804
                                                                                     STREET:
                                                     Massachusetts
                                                                                     225 Franklin Street
                                                                                                                                                                                                                       Roman M. Chicz
Dario A. A. Vignali
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IMMUNOMODULATORY PEPTIDES

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US-08-475-399A-196
                                                                                                     INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 13 amino acids
TYPE: amino acid
TOPOLOGY: linea...
08-475-200-1
                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows95
SOFTWARE: FastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/475,399A
FILING DATE: 07-JUN-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/077,255
FILING DATE: 15-JUN-1993
APPLICATION NUMBER: 07/925,460
FILING DATE: 11-AUG-1992
ATTORNEY/AGENT INFORMATION:
NAME: Fraser, Janis K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                              NAME: Fraser, Janis K.
REGISTRATION NUMBER: 34,819
REFERENCE/DOCKET NUMBER: 00
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617/542-507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES:
CORRESPONDENCE ADDRESS
ADDRESSEE: Fish & R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION:
                                 Local Similarity
mes 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY: US
ZIP: 02110-2804
11 DLIWELL 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Boston
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225 Franklin Street
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Hedley, Mary L.
Stern, Lawrence J.
Strominger, Jack L.
Strominger, Jack L.
VENTION: IMMUNOMODULATORY PEPTIDES
                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Urban, Robert G
Chicz, Roman M.
                                                 40.7%;
85.7%;
                                                                                                                                                                                                                                                                                                34,819
                                                                                                                                                                                                                                                                                   00246/168003
                                                   Score 35; DB
Pred. No. 13;
                                     Mismatches
                                                                      4;
                                     <u>,</u>
                                                                    Length 13;
                                     Indels
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                                   Gaps
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TOPOLOGY: 11
US-08-077-255A-196
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 196, Application PC/TUS9307545 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 40.7%;
Best Local Similarity 85.7%;
Matches 6; Conservative
CLASSIFICATION:
PRIOR APPLICATION UMBER: 07/925,460
APPLICATION NUMBER: 07/925,460
APPLICATION NUMBER: 11, 1992
ATTORNEY/AGENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
REFERENCE,DOCKET NUMBER: 00246/168001
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: 1BM PS/2 Model 50Z or 55SX
OPERATING SYSTEM: MS-DOS (Version 5.0)
SOFTWARE: WordPerfect (Version 5.1)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/07545
FILING DATE: 19930811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE: (617) 542-8906
TELEX: 200144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Roman M. Chicz
APPLICANT: Dario A. A. Vignali
APPLICANT: Mary L. Hedley
APPLICANT: Lawrence J. Stern
APPLICANT: Jack L. Strominger
TITLE OF INVENTION: IMMUNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: 07/925,460
FILING DATE: August 11, 1992
ATTORNEY/AGENT INFORMATION:
NAME: Clark Paul T.
REGISTRATION NUMBER: 30,162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 50Z or 55SX
OPERATING SYSTEM: MS-DOS (Version 5.0
SOFTWARE: WordPerfect (Version 5.1)
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson
STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION: 424
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: 10154
                                                                                                                                                                                                                                                                                                                                                                    COUNTRY: U.S.A. ZIP: 02110-2804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/08/
FILING DATE: June 15, 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11 DLIMELL 17
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                                                                                                                                                                                                                                                                                                                                                                                     Massachusetts
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
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                                                                     ; TOPOLOGY: linear
US-08-480-190-136
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Query Match 40.7%; Score 35; DB 2; Best Local Similarity 85.7%; Pred. No. 15; Matches 6; Conservative 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 136, Application US/08480190 Patent No. 5827516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                      FILING DATE:
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION UNMBER: 08/077,255
FILING DATE: June 15, 1993
APPLICATION NUMBER: 07/925,460
FILING DATE: AUGUST 11, 1992
ATTORNEY/AGENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
REFERENCE/DOCKET NUMBER: 00246/168001
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 542-5070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                 TELEFAX: (617) 542-890
TELEX: 200154
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEX: 200154
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
APPLICANT: Robert
                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: ISM PS/2 Model 50Z or 55SX
OPERATING SYSTEM: MS-DOS (Version 5.0)
SOPTWARE: WordPerfect (Version 5.1)
CURRENT APPLICATION DATA:
                                                                                                                                                        SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Lawrence J. Stern
APPLICANT: Jack L. Strominger
TITLE OF INVENTION: IMMUNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: amino
STRANDEDNESS:
TOPOLOGY: 11
                                                                                                                                                                                        TELEPHONE: (617) 542-8906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STATE: Massachusetts
COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: Boston
STATE: Massac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity 85.
                                                                                                     STRANDEDNESS
                                                                                                                                      LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ZIP: 02110-2804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       11 DLIWELL 17
                                                                                                                       amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mary L. Hedley
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (617) 542-8906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Roman M. Chicz
Dario A. A. Vignali
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Robert G. Urban
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            linear
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85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                US/08/480,190
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Pred. No. 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5
                                   Length 15;
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   Indels
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DLIWELL 17

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Sequence 136, Application US/08475399A
Patent No. 6509033
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                                                                                                                                                                                                                                                                                                                                   US-08-488-379-136
GENERAL INFORMATION:
APPLICANT: Urban, I
APPLICANT: Urban, I
APPLICANT: Vignali,
APPLICANT: Hedley,
                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 6; Conserv
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CLASSIFICATION: 514

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 08/077,255

FILING DATE: June 15, 1993

APPLICATION NUMBER: 07/925,460

FILING DATE: August 11, 1992

ATTORNEY/AGENT INFORMATION:

NAME: Clark, Paul T.

REGISTRATION NUMBER: 30,162

REGISTRATION NUMBER: 00246/168001

TELEPHONE: (617) 542-8070

TELEPHONE: (617) 542-8906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                 TELEX: 200154
INFORMATION FOR SEQ ID NO: 136:
SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 50Z or 55SX
OPERATING SYSTEM: MS-DOS (Version 5.0
SOFTWARE: WordPerfect (Version 5.1)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/488,379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson
STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Mary L. Hedley
APPLICANT: Lawrence J. Stern
APPLICANT: Jack L. Strominger
TITLE OF INVENTION: IMMUNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 274
                                                                                                                                                                                                                                                                                                                                                                                 TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY: U.S.A. ZIP: 02110-2804
                                                                                                                                                                                                                                                                                                                                                  STRANDEDNESS:
TOPOLOGY: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        136, Application US/08488379
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Urban, Robert G.
Chicz, Roman M.
Vignali, Dario A
Hedley, Mary L.
                                                                                                                                                                                                                                                             Conservative
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Dario A. A. Vignali
Mary L. Hedley
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                                                                                                                                                                                                                                                                                                                                                  linear
                  Dario A.A.
                                                                                                                                                                                                                                                                             40.7%; Score 35; DB 2;
85.7%; Pred. No. 15;
                                                                                                                                                                                                                                                               Mismatches
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Sequence 136, Application US/08077255A
Patent No. 6696061
GENERAL INFORMATION:
APPLICANT: Robert G. Urban
APPLICANT: Roman M. Chicz
APPLICANT: Dario A. A. Vignali
APPLICANT: Mary L. Hedley
APPLICANT: Lawrence J. Stern
ADDITORNT: Towns T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows95
SOFTWARE: FASESEQ for Windows Version 2.4
SOFTWARE: FASESEQ for Windows Version 2.4
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/475,399A
FILING DATE: 07-JUN-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/077,255
FILING DATE: 15-JUN-1993
APPLICATION NUMBER: 07/925,460
FILING DATE: 11-AUG-1992
ATTORNEY/AGENT INFORMATION:
NAME: FRASEY, Janis K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: 617/542-890
TELEX: 200154
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Stern, Lander, Jack L.
APPLICANT: Strominger, Jack L.
TITLE OF INVENTION: IMMUNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 276
CORRESPONDENCE ADDRESS:
ADDRESSE: Fish & Richardson, P.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: Fraser, Janis K.
REGISTRATION NUMBER: 34,819
REFERENCE/DOCKST NUMBER: 00246/168003
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617/542-507
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 50Z or 55SX
OPERATING SYSTEM: MS-DOS (Version 5.0)
SOFTWARE: WordPerfect (Version 5.1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
LENGTH: 15 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: US
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS
ADDRESSEE: Fish & R
                                                                                                                                                                                                                                                                  APPLICANT: Jack L. Strominger TITLE OF INVENTION: IMMUNOMODULATORY PEPTIDES NUMBER OF SEQUENCES: 274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: 225 F
CITY: Boston
STATE: MA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: amir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        40.7%;
Local Similarity 85.7%;
tes 6; Conservative
                                                                                                                                                       CITY: Boston
STATE: Massac
                                                                                                             ZIP: 02110-2804
                                                                                                                                COUNTRY: U.S.A.
                                                                                                                                                                                                  STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11 DLIWELL 17
                                                                                                                                                       Massachusetts
                                                                                                                                                                                                  225 Franklin Street
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Pred. No. 15;
1; Mismatches 0; Indels
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Gaps

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Query Match
Best Local Similarity
""" hes 6; Conserve
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 136, Application PC/TUS9307545 GENERAL INFORMATION:
                                              PRIOR APPLICATION DATA:

APPLICATION NUMBER: 07/925,460

APPLICATION NUMBER: 07/925,460

FILLING DATE: AUGUST 11, 1992

ATTORNEY/AGENT INFORMATION:

NAME: Clark, Paul T.

REGISTRATION NUMBER: 00.162

REFERENCE/DOCKET NUMBER: 00.246/168001

TELECOMMUNICATION INFORMATION:

TELEPHONE: (617) 542-8906

TELEPAX: (617) 542-8906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/925,460
FILING DATE: AUGUST 11, 1992
ATTORNEY/AGENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
REFERENCE/DOCKET NUMBER: 00246/168001
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 542-5070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEX: 200154
INFORMATION FOR SEQ ID NO: 136:
SEQUENCE CHARACTERISTICS:
TELEX: 200154
[NFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM 95" Model 50Z or 55SX
OPERATING SYSTEM: MS-DOS (Version 5.0)
SOFTWARE: Wordberfect (Version 5.1)
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Robert G. Urban
APPLICANT: Roman M. Chicz
APPLICANT: Dario A. A. Vign
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION DATA
                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: 225 I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
                                                                                                                                                                                                                         APPLICATION NUMBER: PFILING DATE: 19930811
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: (617) 542-8906
                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY: U.S.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/08/077,255A FILING DATE: June 15, 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ENGTH:
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                                                                                                                                                                                                                                                                                                                                                                                                                       Massachusetts
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Dario A. A. Vignali
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mary L. Hedley
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
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85.7%;
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US-08-480-190-273
                                                                                          US-08-480-190-273
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                                                                                                                                         TELEX: 200154
INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
LENGTH: 16
                                Matches
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                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 273,
                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 50Z or 55SX
OPERATING SYSTEM: MS-DOS (Version 5.0)
SOFTWARE: WordPerfect (Version 5.1)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/480,190
FILING DATE:
                                                                                                                                                                                                                                                                        CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/077,255
FILING DATE: June 15, 1993
APPLICATION NUMBER: 07/925,460
FILING DATE: August 11, 1992
ATTORNEY/AGENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
REGISTRATION NUMBER: 30,162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                 REFERENCE/DOCKET NUMBER: 00246/168001
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 542-5070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Jack L. Strominger
TITLE OF INVENTION: IMMUNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       40.7%;
Local Similarity 85.7%;
hes 6; Conservative
                                                                                                    STRANDEDNESS:
                                                                                                                                                                                                       TELEPHONE: (617) 542-8906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STATE: Massachusetts COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE:
STREET: 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY: 1:
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 11 DLIWELL 17
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225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Roman M. Chicz
Dario A. A. Vignali
Mary L. Hedley
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Application US/08480190
                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Lawrence J. Stern
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Robert G. Urban
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      linear
                                             40.7%;
85.7%;
                                             Score 35; DB 2;
Pred. No. 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 35;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        . 15;
                                                            Length 16;
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                                Gaps
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US-08-488-379-273
                                                                                                                                                                            US-08-475-399A-273
                                                                                                                                                                                                  RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                               ;
TOPOLOGY:
US-08-488-379-273
                                                                                                                                            Sequence 273, Application US/08475399A Patent No. 6509033
                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 6; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/077,255
APPLICATION NUMBER: 07/925,460
FILING DATE: June 15, 1993
APPLICATION NUMBER: 07/925,460
FILING DATE: August 11, 1992
ATTORNEY/AGENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
REFERENCE/DOCKET NUMBER: 00246/168001
TELEPHONE: (617) 542-5070
TELEPHONE: (617) 542-5070
                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: (617) 542-890
TELEX: 200154
INFORMATION FOR SEQ ID NO:
APPLICANT:
APPLICANT:
TITLE OF IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                APPLICANT: Urban, Robert G.
APPLICANT: Chicz, Roman M.
APPLICANT: Vignali, Dario A
APPLICANT: Hedley, Mary L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ZIP: 02110-2804

COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5" Diskette, 1.44 Mb

COMPUTER: IBM PS/2 Model 50Z or 55SX

OPERATING SYSTEM: MS-DOS (Version 5.0

SOFTWARE: WordPerfect (Version 5.1)

CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Lawrence J. Stern
APPLICANT: Jack L. Strominger
TITLE OF INVENTION: IMMUNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 274
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEPHONE: (617) 542-8906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: 225 | CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE: Massachu
COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS:
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                                                                                                                                                                                                                                                                                 11 DLIWELL 17
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                                                                                                                                                                                                                                                                                                                                                                                                                                                  amino acid
   INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Massachusetts
Vignali, Dario A.A.
Hedley, Mary L.
Stern, Lawrence J.
Strominger, Jack L.
NVENTION: IMMUNOMODULATORY PEPTIDES
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Dario A. A. Vignali
Mary L. Hedley
                                                                                                                                                                                                                                                                                                                              Conservative
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Pred. No. 16;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 273, Application US/08077255A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
ZIP: 02110-2804

COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5" Diskette, 1.44 Mb

MEDIUM TYPE: 3.5" Model 50Z or 55SX

COMPUTER: IBM PS/2 Model 50Z or 55SX

OPERATING SYSTEM: MS-DOS (Version 5.0)

SOFTWARE: WordPerfect (Version 5.1)

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/077,255A

FILING DATE: June 15, 1993

CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Patent No. 669606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION UNMBER: US/08/475,399A
FILING DATE: 07-JUN-1995
PRIOR APPLICATION DATA:
APPLICATION UNMBER: 08/077,255
FILING DATE: 15-JUN-1993
APPLICATION NUMBER: 07/925,460
FILING DATE: 11-AUG-1992
ATTORNEY/AGENT INFORMATION:
NAME: Fraser, Janis K.
REGISTRATION UNMBER: 34,819
REFERENCE/DOCKET NUMBER: 00246/16800:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
APPLICANT: Robert
APPLICANT: Roman I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: 617/542-890
TELEX: 200154
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Roman M. Chicz
APPLICANT: Dario A. A. Vignal
APPLICANT: Mary L. Hedley
APPLICANT: Lawrence J. Stern
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 16 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OPERATING SYSTEM: Windows95
SOFTWARE: FastSEQ for Windows Version
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY: US
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                           APPLICANT: Lawrence J. Stern APPLICANT: Jack L. Strominger TITLE OF INVENTION: IMMUNOMODI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardso.
STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                             STREET:
CITY: F
                                                                                                                                                                                                   STATE: Massachusetts COUNTRY: U.S.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid
TOPOLOGY: linear
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225 Franklin Street
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85.7%;
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                                                                                                                                                                                                                                                                                                                                                                                                                          Vignali
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 35; DB 4;
Pred. No. 16;
1; Mismatches
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RESULT 15
PCT-US93-07545-273
Sequence 273, Application PC/TUS9307545
GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Mary L. Hedley
APPLICANT: Lawrence J. Stern
APPLICANT: Jack L. Stern
TITLE OF INVENTION: IMMUNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 273
CORRESPONDENCE ADDRESS:
ADDRESSE: Fish & Richardson
STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity 85.7%;
Matches 6; Conservative
                                                                                                                CITY: BOSTON
CITY: BOSTON
CITY: BOSTON
COUNTRY: U.S.A.
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 50Z or 55SX
OPERATING SYSTEM: MS-DOS (Version 5.0)
SOFTWARE: WORDPETFECT (Version 5.1)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/07545
FILING DATE: 19930811
CLASSIFICATION UNMBER: 07/925,460
PILING DATE: AUGUST 11, 1992
ATTORNEY/AGENT INFORMATION:
REGISTRATION NUMBER: 30,162
REFERENCE/DOCKET NUMBER: 00246/168001
TELEPHONE: (617) 542-5906
TELEPAX: 200154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/925,460
PILLING DATE: August 11, 1992
ATTORNEY/AGENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
REFERENCE/DOCKET NUMBER: 00246/1/
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 542-5070
TELEPAX: (617) 542-8906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: (617) 542-8906
TELEX: 200154
INFORMATION FOR SEQ ID NO: 273:
SEQUENCE CHARACTERISTICS:
LENGTH: 16
                                              TELEX: 200154
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
TOPOLOGY: linear
             TYPE: amino acid
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11 DLIWELL 17
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Dario A. A. Vignali
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Pred. No. 16;
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Search completed: November 1, 2005, 13:41:21 Job time : 42 secs

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OM protein - protein search, using sw model
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Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Minimum DB seq length: 0 Maximum DB seq length: 17
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Scoring table:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Run on:
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43.334 Million cell updates/sec
                                                                                                    1865214 segs, 418043040 residues
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1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
2: /cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*
3: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*
4: /cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep:*
5: /cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
6: /cgn2_6/ptodata/1/pubpaa/PCTUS_PUBCOMB.pep:*
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/ Cgn2 6/ptodata/1/pubpaa/US08_REW_PUB_pep: *
/ Cgn2 6/ptodata/1/pubpaa/US08_PUBCOMB.pep: *
/ Cgn2 6/ptodata/1/pubpaa/US08_PUBCOMB.pep: *
/ Cgn2 6/ptodata/1/pubpaa/US09A_PUBCOMB.pep: *
/ Cgn2 6/ptodata/1/pubpaa/US09A_PUBCOMB.pep: *
/ Cgn2 6/ptodata/1/pubpaa/US09C_PUBCOMB.pep: *
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/ Cgn2 6/ptodata/1/pubpaa/US10B_PUBCOMB.pep: *
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Pred. No. 18 the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

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3225	 	844 844 844 844	Score
37.2	38.4 38.4	100.0 50.0 50.0 38.4	Query Match
10	111111111111111111111111111111111111111	17 15 13	Query Match Length DB
14	15	15 17 15	BB
US-10-468-370-54 US-10-190-082-445 US-10-813-638-1208	US-10-467-114-51 US-10-468-370-52 US-10-468-370-53	US-10-612-162-1 US-10-769-514-5 US-10-801-990-7 US-10-467-114-49 US-10-467-114-50	ID .
Sequence 54, Appl Sequence 445, App Sequence 1208, Ap	Sequence 51, Appl Sequence 52, Appl Sequence 53, Appl	Sequence 1, Appli Sequence 5, Appli Sequence 7, Appli Sequence 49, Appl Sequence 50, Appl	Description

45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	7.7
27	27	27	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28.5	29	29	29	29	29	30	30	30	30	30	L
31.4	•	•		•	•	٠		•	32.6	•	•	•	•	٠		•	32.6		•	٠	٠		٠	•	٠	•	•	•	٠	•		4.	ā
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US-10-403-847-85	US-10-504-726-33	US-10-190-082-444	US-10-921-371-14	US-09-798-116-23	US-09-853-253-14	US-10-807-807-1148	_	US-10-921-371-15	US-10-808-187-1148	US-09-853-253-16	US-09-853-253-15	US-10-264-309-173	US-10-921-371-17	US-10-264-309-173	09-853-253-1	-11-031-919-	-383-999-	-10-264-672-	-10-215-	-10-190-	-09-572-404B-	-10-356-257-2	0-695	-10-695-155-1	-10-468-370-5	-10-467-114	-10-714-	US-10-291-241-85	-10-860-790-4	US-10-198-053-494	9-907-969-	US-10-783-989-3	TOP-CCT-OT-
85,	e 33,	444	e 14,	23, 1		1148			e 1	16	15	ب	e	e 17	17	13,	13		13, 1	446,	2179	295,	13	131,	55,	e 52,	e 607,	e 85,	e 494,	e 494,	e 494	e 3, Ap	

## ALIGNMENTS

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RESULT 1

US-10-612-162-1

US-10-612-162-1

Sequence 1, Application US/10612162

Publication No. US20040014145A1

GENERAL INFORMATION:
APPLICANT: Dade Behring Marburg GmbH
TITLE OF INVENTION: Carbohydrate deficient transferrin (CDT)-specific
TITLE OF INVENTION: Antibodies, their preparation and use
FILE REFERENCE: 2002/B001

CURRENT PAPLICATION NUMBER: US/10/612,162

CURRENT FILING DATE: 2003-07-03

PRIOR PPLICATION NUMBER: 10330550.1

PRIOR FILING DATE: 2003-07-05

PRIOR FILING DATE: 2003-05-19

NUMBER OF SEQ ID NOS: 4

SOFTWARE: PATENTIN Ver. 2.1

SEQ ID NO 1

LENGTH: 17

TYPE: PRT
ORGANISM: Homo sapiens

US-10-612-162-1

OUCRY Match
Best Local Similarity 100.0%; Score 86; DB 15; Length 17;
Matches 17; Conservative 0; Mismatches 0; Gaps 0;

Matches 17; COnservative 0; Mismatches 0; Gaps 0;

RESULT 2

US-10-769-514-5
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Best Local Similarity
Annes 9; Conserva
                                                                                                                                                                                                                                                             US-10-467-114-49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; LENGTH: 17
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-801-990-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-801-990-7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION NUMBER: US 60/455,037
PRIOR FILING DATE: 2003-03-14
NUMBER OF SEQ ID NOS: 395
SOFTWARE: Patentin version 3.2
SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID NO 5
LENGTH: 15
TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                               Sequence 49, Application US/10467114
Publication No. US20040072219A1
GENERAL INFORMATION:
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APPLICANT: SChryvers, Anthony
TITLE OF INVENTION: Transferrin Binding Peptides and Uses Thereof
FILE REFERENCE: 028722-001
CURRENT APPLICATION NUMBER: US/10/769,514
CURRENT FILING DATE: 2004-01-30
PRIOR APPLICATION NUMBER: US 60/444,113
PRIOR FILING DATE: 2003-01-31
NUMBER OF SEQ ID NOS: 86
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity
Matches 8; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
APPLICANT: Kantor, Aaron B.
APPLICANT: Schulman, Howar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
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                                  APPLICANT: Jones, Tim
APPLICANT: Williams, Stephen
APPLICANT: Hamilton, Anita
TITLE OF INVENTION: MODIFIED LEPTIN WITH REDUCED
TITLE OF INVENTION: IMMUNOGENICITY
FILE REFERENCE: MER-115
                                                                                                                                       APPLICANT: Carr, Francis J.
APPLICANT: Carter, Graham
APPLICANT: Jones, Tim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILE REFERENCE: SURR.121
CURRENT APPLICATION NUMBER: US/10/801,990
CURRENT FILING DATE: 2004-03-15
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APPLICANT: Becker, Christopher
TITLE OF INVENTION: BIOMARKERS FOR RHEUMATOID ARTHRITIS
CURRENT APPLICATION NUMBER: US/10/467,114
CURRENT FILING DATE: 2003-08-05
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 50.0%; Score 43; DB 17; Length 17; 100.0%; Pred. No. 3.7;
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APPLICANT: Jones, Tim
APPLICANT: Williams, Stephen
APPLICANT: Hamilton, Anita
APPLICANT: Hamilton, Anita
TITLE OF INVENTION: MODIFIED LEPTIN WITH REDUCED
TITLE OF INVENTION: IMMUNOGENICITY
FILE REFERENCE: MER-115
CURRENT APPLICATION NUMBER: US/10/467,114
CURRENT FILING DATE: 2003-08-05
PRIOR APPLICATION NUMBER: EP 01102618.4
PRIOR FILING DATE: 2001-02-06
PRIOR FILING DATE: 2001-02-19
PRIOR FILING DATE: 2001-02-19
PRIOR FILING DATE: 2001-02-19
PRIOR FILING DATE: 2002-02-05
PRIOR FILING DATE: 2002-02-05
PRIOR FILING DATE: 2002-02-05
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US-10-467-114-50
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US-10-467-114-51
                      RESULT 6
                                                                                                                                                                                                                                        US-10-467-114-50
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SEQ ID NO 50
LENGTH: 13
TYPE: PRT
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SOFTWARE: FRATSEQ for Windows Version 4.0
SEQ ID NO 49
LENGTH: 13
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Best Local Similarity
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Carr, Francis J.
                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQ ID NOS: 52
                                                                                                                                                                                                                                                       FEATURE:
OTHER INFORMATION: MCH class II binding epitope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
ORGANISM: Artificial Sequence
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                                                                                                                     GGKEDLIWEL 16
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                                                                              GSLQDMLWQL 11
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                                                                                                                                                            Conservative
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                                                                                                                                                                             38.4%;
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Pred. No. 1.4e+02;
4; Mismatches 2
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Pred. No. 1.4e+02;
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Sequence 51, Application US/10467114 Publication No. US20040072219A1 GENERAL INFORMATION:

APPLICANT: Carr, Francis J. APPLICANT: Carter, Graham APPLICANT: Jones, Tim

APPLICANT:

Williams, Stephen

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                   Query Match
Best Local Similarity
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                                                                                                                      OTHER INFORMATION: MHC class II binding epitope
US-10-468-370-52
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                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/10/468,370
CURRENT FILING DATE: 2003-08-19
PRIOR APPLICATION NUMBER: EP 01103955.9
PRIOR FILING DATE: 2001-02-19
PRIOR APPLICATION NUMBER: EP 01108291.4
PRIOR FILING DATE: 2001-04-05
PRIOR APPLICATION NUMBER: PCT/EP02/01690
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SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 52
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TITLE OF INVENTION: ARTIFICIAL PROTEINS WITH REDUCED
TITLE OF INVENTION: IMMUNOGENICITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILE REFERENCE: MER-115
CURRENT APPLICATION NUMBER: US/10/467,114
CURRENT FILING DATE: 2003-08-05
PRIOR APPLICATION NUMBER: EP 01102618.4
PRIOR FILING DATE: 2001-02-06
PRIOR APPLICATION NUMBER: EP 01103954.2
PRIOR FILING DATE: 2001-02-19
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TITLE OF INVENTION: MODIFIED LEPTIN WITH REDUCED
TITLE OF INVENTION: IMMUNOGENICITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
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  3 ARSMGGKEDLIWE 15
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Williams, Stephen
Hanlon, Marian
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No. US20040082039A1
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Carter, Graham
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                                                         38.4%;
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    Mismatches

                                                         Score 33; DB 15;
Pred. No. 1.4e+02;
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TITLE OF INVENTION: ARTIFICIAL PROTEINS WITH REDUCED
TITLE OF INVENTION: INMUNOGENICITY
FILE REFERENCE: MER-118
CURRENT APPLICATION NUMBER: US/10/468,370
CURRENT FILING DATE: 2003-08-19
PRIOR APPLICATION NUMBER: EP 01103955.9
PRIOR FILING DATE: 2001-02-19
PRIOR FILING DATE: 2001-02-19
PRIOR FILING DATE: 2001-04-05
PRIOR APPLICATION NUMBER: EP 01108291.4
PRIOR APPLICATION NUMBER: PCT/EP02/01690
PRIOR APPLICATION NUMBER: PCT/EP02/01690
PRIOR FILING DATE: 2002-02-18
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SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 53
LENGTH: 13
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                                                                                                                                                                                                                                                                                                                                                                                                Sequence 54, Application US/10468370 Publication No. US20040082039A1
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APPLICANT:
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Best Local Similarity 40.0%;
APPLICANT: Way, Jeffrey
TITLE OF INVENTION: ARTIFICIAL PROTEINS WITH REDUCED
TITLE OF INVENTION: INVUINCENICITY
FILE REPERENCE: MER-118
CURRENT APPLICATION NUMBER: US/10/468,370
CURRENT FILING DATE: 2003-08-19
PRIOR APPLICATION NUMBER: EP 01103955.9
PRIOR FILING DATE: 2001-02-19
PRIOR APPLICATION NUMBER: EP 01108291.4
PRIOR APPLICATION NUMBER: EP 07108291.4
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APPLICANT: Carr, Francis J
APPLICANT: Jones, Tim
APPLICANT: Carter, Graham
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Watkins, John
Baker, Matthew
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Williams, Stephen
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Carter, Graham
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Williams, Stephen
Hanlon, Marian
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Baker, Matthew
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Pred. No.
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Sequence 1208, Application US/10813638
Publication No. US20040235026A1
GENERAL INFORMATION:
APPLICANT: Shimkets, Richard A.
APPLICANT: Leach, Martin D.
TITLE OF INVENTION: NUCLEIC ACIDS CONTAINING SING TITLE OF INVENTION: USE THEREOF FILE REPERENCE: 15966-599
CURRENT APPLICATION NUMBER: US/10/813,638
CURRENT FILING DATE: 2004-03-29
PRIOR APPLICATION NUMBER: 60/163,783
PRIOR APPLICATION NUMBER: 60/163,783
PRIOR FILING DATE: 1999-11-24
NUMBER OF SEQ ID NOS: 1468
SOFTWARE: CuraGen Patent Formatter Version 0.9
SEQ ID NO 1208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 445
LENGTH: 10
TYPE: PRT
ORCANISM: Artificial sequence
FEATURE:
OTHER INFORMATION: Synthetic
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US-10-813-638-1208
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Best Local Similarity
Thes 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
APPLICANT: Lasky, Lawrence A.
APPLICANT: Sidhu, Sachdev S.
APPLICANT: Held, Heike A.
TITLE OF INVENTION: PHAGE DISPLAYED PDZ DOMAIN LIGANDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQ ID NOS: 689

SOPTWARE: PastSEQ for Windows Version 4.0

SEQ ID NO 54

LENGTH: 13

TYPE: PRT

ORGANISM: Artificial Sequence
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Best Local
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CURRENT APPLICATION NUMBER: US/10/190,082
CURRENT FILING DATE: 2002-07-03
PRIOR APPLICATION NUMBER: US 60/303,634
PRIOR PILING DATE: 2001-07-06
NUMBER OF SEQ ID NOS: 683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: PCT/EP02/01690 PRIOR FILING DATE: 2002-02-18
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
                                   LENGTH: 14
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                                                                                                                                                                                                                                                                                                                                                                                                                KKNSVWELL 9
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Pred. No. 1.6e+02;
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Pred. No.
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US-10-783-989-3
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US-10-783-989-3
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; NAME/KEY: VARIANT
; LOCATION: (7)...(0)
; OTHER INFORMATION: CSNP translation
US-10-813-638-1208
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Best Local Similarity 85...
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION: PROTEIN KINASE PEPTIDE SUBSTRATE DETERMINATION USING PEPTIDE TITLE OF INVENTION: LIBRARIES FILE REFERENCE: Attorney Docket No. US20030113711A1 447-76, Glaxo ID PU4253 CURRENT APPLICATION NUMBER: US/10/155,481B CURRENT FILING DATE: 2002-05-24 NUMBER OF SEQ ID NOS: 17 SOFTWARE: Patentin version 3.0 SEQ ID NO 17
                                                                                                     NUMBER OF SEQ ID NOS: 84
SOFTWARE: PatentIn Ver. :
SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                                                    Sequence 3, Application US/10783989 Publication No. US20050015821A1
Query Match
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Publication No.
                                                                                                                                                   TITLE OF INVENTION: SENSIN POLYPEPTIDES, E TITLE OF INVENTION: AND METHODS OF THEIR FILE REFERENCE: 022731-0402
CURRENT APPLICATION NUMBER: US/10/783,989
CURRENT FILING DATE: 2004-02-20
PRIOR APPLICATION NUMBER: 60/448,964
PRIOR PILING DATE: 2003-02-21
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APPLICANT: Bramson, H.
APPLICANT: Moyer, Mary
APPLICANT: Blackburn,
                                               LENGTH: 14
TYPE: PRT
ORGANISM: Mus
                                                                                                                                                                                                                                                                              APPLICANT: GLYNNE, RICHARD J.
APPLICANT: HONG, NANCY AI-HUA
APPLICANT: NELMS, KEATS A.
APPLICANT: WU, HUA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 16
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OTHER INFORMATION: Synthetic construct
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Local Similarity 45.5%;
Local Similarity 45.5%;
tes 5; Conservative
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No. US20030113711A1
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34.9%;
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Score
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Pred. No. 2
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30;
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17;
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Length 14;
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RESULT 15
US-10-198-053-494
(Sequence 494, Application US/10198053)
Publication No. US20030124140A1
GENERAL INFORMATION:
APPLICANT: Bangur, Chaitanya S.
APPLICANT: Retter, Marc W.
APPLICANT: Fanger, Gary R.
APPLICANT: Hill, Paul
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY
TITLE OF INVENTION: AND DIAGNOSIS OF OVARIAN CANCER
FILE REFERENCE: 210121.46209
CURRENT APPLICATION NUMBER: US/10/198,053
CURRENT FILING DATE: 2002-07-17
NUMBER OF SEQ ID NOS: 624
SOFTWARE: FRSESEQ for Windows Version 4.0
SEQ ID NO 494
LENGTH: 15
TYDE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Hill, Paul
APPLICANT: Albone, Earl
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY
TITLE OF INVENTION: AND DIAGNOSIS OF OVARIAN CANCER
FILE REFERENCE: 210121.462CB
CURRENT APPLICATION NUMBER: US/09/907,969
CURRENT FILING DATE: 2001-07-17
NUMBER OF SEQ ID NOS: 596
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 494
LENGTH: 15
TYDE: PRT
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Publication No. US2030091580A1
GENERAL INFORMATION:
APPLICANT: Mitcham, Jennifer L.
APPLICANT: King, Gordon E.
APPLICANT: Algate, Paul A.
APPLICANT: Pling, Steven P.
APPLICANT: Fling, Steven P.
APPLICANT: Fanger, Gary Richard
APPLICANT: Redter, Marc W.
APPLICANT: Rede, Steven G.
APPLICANT: Red, Steven G.
APPLICANT: Carter, Darrick
APPLICANT: Vedvick, Thomas S.
APPLICANT: Vedvick, Darrick
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; ORGANISM: Homo sapiens
US-09-907-969-494
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US-09-907-969-494
                                     Query Match 34.9%;
Best Local Similarity 62.5%;
Matches 5; Conservative
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Best Local Similarity 62.5%;
Matches 5; Conservative
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4 REQLYWEL 11
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9 KEDLIWEL 16
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                                     Score 30; DB 14; Length 15; Pred. No. 5.4e+02; Indels 1; Mismatches 2; Indels
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Search completed: November 1, 2005, 13:45:54 Job time : 165 secs

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Maximum DB :
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Maximum Match
Listing first
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Perfect score:
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     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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seq length: 17
     Match
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43.044 Million cell updates/sec
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1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*
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  GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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                                                                                                                                                                                                         r cell receptor al hypodermin B - ear T-cell antigen rec unidentified 6.3/4 hypothetical MN1/T proton-ranslocati T-cell receptor al Ig H chain V-D J r T-cell receptor al formyltettrahydrofo trypsin (EC 3.4.2) thymocyte growth proton facel receptor al formyltettrahydrofo trypsin (EC 3.4.2) thymocyte growth procell receptor al T-cell re
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T-cell receptor be
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T cell receptor V-
urotensin II - lon
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4 SMDSNYQLIW 13

Qy 5 SMCGKEDLIW 14		A;Reference number: PH1754; MUID:93301585; PMID: A;Accession: PH1769 A;Status: preliminary A;Molecule type: mRNA A;Residues: 1-14 <por></por>	RESULT 2  PH1769  PH1769  T cell receptor alpha chain V region (clone 2V alp C; Species: Homo sapiens (man) C; Date: 16.Jul-1999 #sequence_revision 16-Jul-1999 C; Accession: PH1769 R; Porcelli, S.; Yockey, C.E.; Brenner, M.B.; Balk, J. Exp. Med. 178, 1-16, 1993 A; Title: Analysis of T cell antigen receptor (TCR)	6; Conservative 0 2 VARSMGGK 9	3.7%;	RESULT 1  S60294  tubulin 2 beta-3 chain - fruit fly (Drosophila mel C;Species: Drosophila melanogaster C;Date: 19-Jul-1996 #sequence_revision 26-Jul-1996 C;Accession: S60294  R;Chapel, S.; Sobrier, M.L.; Montpied, P.; Micard, Insect Mol. Biol. 2, 39-48, 1993  A;Title: In Drosophila Kc cells 20-OHE induction o A;Reference number: S60292; MUID:97242543; PMID:90 A;Accession: S60294  A;Molecule type: mRNA A;Residues: 1-11 <cha> A;Cross-references: EMBL:X60393 C;Genetics: A;Gene: FlyBase:beta-Tub60D A;Cross-references: FlyBase:FBgn0003888</cha>	ALIGNMENTS	30 21 24.4 12 2 S42765 31 21 24.4 14 2 PH1759 32 21 24.4 14 2 S58426 33 21 24.4 14 2 PH1625 34 21 24.4 14 2 PH1627 35 21 24.4 14 2 PH0762 36 21 24.4 14 2 PH0762 37 21 24.4 17 2 B61321 38 21 24.4 17 2 B61321 39 20 23.3 10 2 PT0670 40 20 23.3 10 2 PT06470 41 20 23.3 11 2 B49164 42 20 23.3 12 2 JS0423 43 20 23.3 13 2 JS0423 44 20 23.3 14 2 A35103 45 20 23.3 15 2 A45103
	; Length 14; ; 5; Indels 0; Gaps 0;	8391057	alpha 7.2-4) - human (fragment) 999 #text_change 16-Jul-1999 1k, S.P. CR) expression by human peripheral blood	2; Indels 0; Gaps 0;	Length 11;	ila melanogaster) (fragment) ul-1996 #text_change 21-Jun-2002 Micard, D.; Bruhat, A.; Couderc, J.L.; Dastuction of the 60C beta-3 tubulin gene expressipMID:9087542		urotensin II - tel T cell receptor al spermadhesin AWN h Ig H chain V-D-J r Ig H chain V-D-J r Ig H chain V-D-J r T-cell receptor be basic proteinase I histone H4 - commo T-cell receptor be Ig heavy chain CRD chromogranin-B - r urotensin II-A pep Ig H chain V-D-J r hypothetical prote 7 alpha-hydroxy-4-

fugi A.G

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                                                                                                                                                                                                                                                                                                                                          RESULT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             T-cell antigen receptor VJ junction beta chain - C;Species: Homo sapiens (man)
C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995
C;Accession: $47383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R;Lecroisey, A.; Tong, N.T.; Keil, B.
Eur. J. Biochem. 134, 261-267, 1983
Eur. J. Biochem. 134, 261-267, 1983
A;Title: Hypodermin B, a trypsin-related enzyme from the A;Reference number: A20190; MUID:83261874; PMID:6307690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 hypodermin B - early cattle grub (fragment)
(7) Species: Hypoderma lineatum (early cattle grub)
(7) Date: 05-Jun-1987 #sequence revision 05-Jun-1987 #text_change
(7) Accession: A20190
                                                                                                                                                                                                                                                                        C;Species: Oryza sativa (rice)
C;Date: 20-Apr-2000 #sequence_revision 20-Apr-2000 #text_change 09-Jul-2004
C;Accession: PQ0700
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                                                                                                                                                                                                                                                                                                                         unidentified 6.3/40K protein [imported] -
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A; Residues: 1-13 < LEH>
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A; Accession: S47383
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                                                                                                                               Cross-references: UNIPROT: Q7M1U1
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Pred. No. 8.1e+02;
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RESULT 8
PH1183
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                                                                                                                                             T-cell receptor alpha chain V region (Cw3/A8) - human (fragment)
(;Species: Homo sapiens (man)
C;Date: 16-Jul-1999 #sequence_revision 16-Jul-1999 #text_change 16-Jul-1999
C;Accession: PH1183
R;Casanova, J.L.; Cerottini, J.C.; Matthes, M.; Necker, A.; Gournier, H.; Barra,
J. Exp. Med. 176, 439-447, 1992
A;Title: H-2-restricted cytolytic T lymphocytes specific for HLA display T cell 1
A;Reference number: S26512; MUID:92364546; PMID:1380061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R;Buijs, A.; Sherr, S.; van Baal, S.; van Bezouw, S.; van der Plas, D.; Van Kessel, Oncogene 10, 1511-1519, 1995
A;Title: Translocation (12;22) (pl3;q11) in myeloproliferative disorders results in A;Reference number: 138031; MUID:95249265; PMID:7731705
A;Accession: 138031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Title: Properties of the soluble polypeptide of the proton-translocating transhydrogen A;Reference number: 869123; MUID:95255277; PMID:7737169
A;Accession: 869123
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                                                               A; Molecule type: mRNA
A; Residues: 1-12 < CAS>
                                                                                                                           A;Reference number: S26512;
A;Accession: PH1183
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C; Accession: S69123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           proton-translocating transhydrogenase - Rhodospirillum rubrum (fragment)
C;Species: Rhodospirillum rubrum
C;Date: 10-Mar-1998 #sequence_revision 24-Apr-1998 #text_change 24-Apr-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Map position: 22q11/12p1: C; Keywords: fusion protein
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A; Map position: 22q11/12p13
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A; Residues: 1-15 < BUI >
                                                                                                     A; Status: preliminary
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  Query Match
Best Local
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57.1%;
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26.7%;
83.3%;
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4; Mismatches
  Score
Pred.
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Pred. No. 9.5e+02
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  23;
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Similarity

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RESULT 11
PH0782
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A;Experimental source: cytolytic T-lymphocyte
C;Superfamily: immunoglobulin V region; immuno
C;Keywords: T-cell receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Species: Mus musculus (house mouse)
A;Variety: clone Cw3/A8; A3/74.1
C;Date: 11-Mar-1998 #sequence_revision 17-Apr-1998 #text_change 17-Mar-1999
C;Accession: S26527; PH.442
R;Casanova, J.L.; Cerottini, J.C.; Matthes, M.; Necker, A.; Gournier, H.; Barra, J. Exp. Med. 176, 439-447, 1992
A;Title: H-2-restricted cytolytic T lymphocytes specific for HLA display T cell r
A;Reference number: S26512; MUID:92364546; PMID:1380061
T-cell receptor alpha chain (H3 V-alpha-10. TA57) - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Date: 17-Jul-1992 #sequence_revision 17-Jul-1992 #text_change 30-May-1997
                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: EMBL:X67978
A;Experimental source: cytolytic T-lymphocyte, clone Cw3/A8
A;Experimental source: cytolytic T-lymphocyte, clone Cw3/A8
A;Experimental source: cytolytic T-lymphocyte, clone Cw3/A8
A;Casanova, J.L; Martinon, F; Gournier, H; Barra, C; Pannetier, C; Regnault, A; KC
J: Exp. Med. 177, 811-820, 1993
A;Title: T cell receptor selection by and recognition of two class I major histocompatib
A;Reference number: PH1430; MUID:93171821; PMID:8436911
A;Accession: PH1442
A;Molecule type: mRNA
A;Residues: 1-15 <CR2>
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J. Exp. Med. 178, 317-329, 1993
A;Title: Molecular characterization of transgene-induced A;Reference number: PH1580; MUID:93301609; PMID:8315387
A;Accession: PH1626
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A; Residues: 1-14 <LEV>
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Pred. No. 1.4e+03;
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Pred. No. 1.3e+03;
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R;Casanova, J.L.; Romero, P.; Widmann, C.; Kourilsky, P.; Maryanski, J.L.
J. Exp. Med. 174, 1371-1383, 1991
A;Title: T cell receptor genes in a series of class I major histocompatibility complex-
allelic exclusion and antigen-specific repertoire.
A;Reference number: PH0746; MUID:92078846; PMID:1836010
                                                                                                        A;Cross-references: UNIPROT:Q7M432
C;Superfamily: trypsin; trypsin homology
C;Keywords: hydrolase; protein digestion; serine proteinase
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A;Residues: 1-15 <CAS>
A;Cross-references: EMBL:X60883
A;Experimental source: T lymphocyte
A;Note: the authors translated the C
C;Keywords: T-cell receptor
S
                                                                                                                                                             A;Accession: B61334
A;Molecule type: protein
A;Residues: 1-17 <EST>
                                                                                                                                                                                                                                                                                                      trypsin (EC 3.4.21.4) 2 - starfish (Dermasterias imbricata) (fragment)
C;Species: Dermasterias imbricata
C;Species: 17-Jul-1994 #sequence_revision 17-Jul-1994 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R;Johlin, F.C.; Swain, B.; Smith, C.; Tephly, T.R. Mol. Pharmacol. 35, 745-750, 1989
A;Title: Studies on the mechanism of methanol poisoning: A;Reference number: A60560; MUID:89281497; PMID:2733692
                                                                                                                                                                                                                   A; Title: Dermasterias imbricata trypsin 1: A; Reference number: A61334; MUID: 80109692;
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Biochemistry 19, 124-131, 1980
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C;Date: 17-Apr-1993 #sequence_revision.17-Apr-1993
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A;Cross-references: UNIPROT:Q7M3C5
C;Comment: This peptide induces DNA synthesis in immature thymocytes, but not peripheral in a variety of immunoassays.
C;Comment: This peptide was isolated in two forms. One form contained the pyrrolidone car form (thymocyte growth peptide) contains a large, non-peptide blocking group with a hi C;Superfamily: thymic factor
C;Superfamily: thymic factor
C;Keywords: blocked amino end; pyroglutamic acid
F;1/Modified site: pyrrolidone carboxylic acid (Glx) (in FTS) #status experimental
F;1/Modified site: blocked amino end (Glx) (in thymocyte growth peptide) #status experim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              thymocyte growth peptide - sheep
N;Contains: FTS (facteur thymique serique)
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 31-Dec-1993 #sequence_revision 31-Dec-1993 #text_change 09-Jul-2004
C;Accession: A60957
R;Ernstroem, U.; Gafvelin, G.; Rudja, J.M.
Blosci. Rep. 10, 403-412, 1990
A;Title: Purification of thymocyte growth peptide (TGP) from sheep thymus. Relationship
A;Reference number: A60957; MUID:91064427; PMID:2249004
A;Accession: A60957
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A; Residues: 'Z',2-4,'Z',6-9 < BAC>
A; Residues: 'Z',2-4,'Z',6-9 < BAC>
C; Comment: This peptide induces DNA synthesis in immature thymocytes, but not peripheral in a variety of immunoassays.
C; Comment: See PIR:A60957 (sheep) for discussion of another possible N-terminal modifica C; Superfamily: thymic factor
C; Keywords: pyroglutamic acid
F; 1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
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C;Species: Sus scrofa domestics (domestic pig)
C;Date: 13-Jul-1981 #sequence_revision 13-Jul-1981 #text_change 09-Jul-2004
C;Accession: A01523; A60983
R;Pleau, J.M.; Dardenne, M.; Blouquit, Y.; Bach, J.F.
J. Biol. Chem. 252, 8045-8047, 1977
A;Title: Structural study of circulating thymic factor: a peptide isolated from pig seru A;Reference number: A01523; MUID:78026571; PMID:914862
A;Accession: A01523
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R;Bach, J.F.; Dardenne, M.; Pleau, J.M.; Rosa, J.
Nature 266, 55-57, 1975
A;Title: Biochemical characterisation of a serum thymic factor.
A;Reference number: A60983; MUID:77123829; PMID:300146
A;Accession: A60983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Molecule type: protein
A;Residues: 1-9 <ERN>
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Pred. No. 2.8e+05;
1; Mismatches 1
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Pred. No. 2.8e+05;
1; Mismatches 1
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2: uniprot_trembl:*
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Q76m16 eurypharynx
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05-JUL-2004 (TrEMBLrel. 27, Lass
Neural cell adhesion molecule (Name=NCAM;
SEQUENCE FROM N.A.
Johnson A.D., Oveenek N., To:
Submitted (DEC-1993) to the !
EMBL; L26396; AAA49911.1; -.
NON_TER 17
                                                                                                                                                                                                                     Xenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata; Ven
Amphibia; Batrachia; Anura; Mesobatrachia;
Xenopodinae; Xenopus.
NCBI TaxID=8355;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chen A., Reyes A., Akeson R.A.; "Transcription initiation sites and structural organization of the extreme 5' region of the rat neural cell adhesion molecule gene."; Mol. Cell. Biol. 10:3314-3324(1990).
EMBL; M32612; AAA41680.1; -.
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
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MEDLINE=90287121; PubMed=1694009;
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(TrEMBLrel. 27, Last sequence update)
(TrEMBLrel. 27, Last annotation update)
adhesion molecule (Fragment).
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(TrEMBLrel. 27, Last sequence update)
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Sciurognathi; Muridae; Murinae; Rattus.
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                                                                                                         Sandy J.D., Flannery C.R., Neame P.J., Lohmander L.S.;
J. Clin. Invest. 89:1512-1516(1992)
GO; GO:0030021; F:extracellular matrix structural constituent.
GO; GO:0005540; F:hyaluronic acid binding; ISS.
GO; GO:0030198; P:extracellular matrix organization and bioge.
                                                                                                                                                            SEQUENCE FROM N.A. MEDLINE=92235266; PubMed=1569188;
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01-MAY 2000 (TrEMBLrel 13, Last sequence update)
01-OCT-2003 (TrEMBLrel 25, Last annotation update)
Aggrecan core protein (Fragment)
Homo sapiens (Human)
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Eukaryota; Metazoa;
Mammalia; Eutheria;
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Dickin J.C., Thue T.D., Buchanan F.C.;
Submitted (NOV-2003) to the EMBL/GenBank/DDBJ databases.
EMBL; AY455989; AAS67354.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rangifer tarandus (Reindeer) (Caribou).

Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Cervidae;

Odocoileinae; Rangifer.
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Primates;
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Pred. No.
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                                                                                                                                                                                                   Craniata; Ve
Catarrhini;
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                                                          DB 2;
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                                                 8e+03;
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RESULT 6
UR2B_CYPCA
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Q76ML6
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Best Local S
Matches 4
Munikata E., Ohtaki T., Ichikawa T., McMaster D., Let
(In) Rich D.H., Gross E. (eds.);
Let Proceedings of the 7th American peptide symposium, pi
Chemical Co., Rockford II. (1981).
-!- FUNCTION: Urotensin is found in the teleost cauda
system. It has a suggested role in osmoregulation
corticotropin-releasing factor.
-!- SUBCELLULAR LOCATION: Secreted.
-!- SUBCELLULAR LOCATION: Secreted.
-!- SIMILARITY: Belongs to the urotensin 2 family.
InterPro; IPR001483; Urotensin II;
Pfam; PF02083; Urotensin II;
Pfam; PF02083; Urotensin II;
Pfam; PF02083; UROTENSIN_II; 1.
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SEQUENCE 10 A
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Q76ML6;
05-JUL-2004 (TrEMBLrel. 27, Created)
05-JUL-2004 (TrEMBLrel. 27, Last sequence
05-JUL-2004 (TrEMBLrel. 27, Last annotat:
NADH dehydrogenase subunit 4 (Fragment).
                                                                                                                                                                                                                                                                                                                                                                       Cyprinus carpio (Common carp).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniform
Cyprinidae; Cyprinus.
NCBI_TaxID=7962;
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13-AUG-1987 (Rel. 05, Created)
13-AUG-1987 (Rel. 05, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation updat
Urotensin II-beta (UII-beta) (U-II-beta)
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Actinopterygii; Neopterygii; Teleostei; Anguilliformes;
Eurypharyngidae; Eurypharynx.
NCBI_TaxID=55117;
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Pred. No. 3e+03;
l; Mismatches
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RESULT 7
CRBL VESAA
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AC P17234
DT 01-AUG
DT 01-AUG
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DE Vespad
OS Vespa
OC Vespid
OX NCBI_T
RN SEQUEN
RC TISSUE
RA Yasuha
RL (1985)
CC --- FI
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P17234;
01-AUG-1990
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Disulfic
VARIANT
                                                                                                                            01-MAR-2004 (TYEMBLrel. 26, Created)
01-MAR-2004 (TYEMBLrel. 26, Last sequence update)
01-MAR-2004 (TYEMBLREL. 26, Last sunctation updat
Unidentified 6.3/40K protein (Fragment).
Oryza sativa (Rice).
Eukaryota; Viridiplantae; Streptophyta; Embryophy
Spermatophyta; Magnoliophyta; Liliopsida; Poales;
Enrhartoideae; Oryzeae; Oryza.
Gramene, Q7M1U1,
NON_TER 1
NON_TER 13
                                  "A rice protein library; a data-file of two-dimensional electrophoresis."; Theor. Appl. Genet. 86:935-942(1993). PIR; PQ0700; PQ0700.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-AUG-1990 (Rel. 15, Created)
01-AUG-1990 (Rel. 15, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Vespid chemotactic peptide X (VESCP-X).
Vespa xanthoptera (Japanese hornet).
Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Meoptera; Endopterygota; Hymenoptera; Apocrita; Aculeata; Vespoidea;
                                                                                                                                                                                                              Q7M1U1;
01-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                                           Mast cell degranulation.
MOD RES 13 13
SEQUENCE 13 AA; 1368
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Peptide chemistry 1984, pp.177-182,
                                                                                                                                                                                                                                      Q7M1U1
                                                                                                                                                                                                                                                                                                                                                                                                                           of neutrophils.
Amidation; Chemotaxis; Direct protein sequencing.
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                                                                                                                  NCBI_TaxID=4530;
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37.5%;
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33.3%;
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Pred. No.
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Pred. No. 5.9e+03
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C85040365DF9233D
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73960A9FB879CEBB CRC64;
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RESULT 10
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DT 05-JU
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DT 05-JU
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Q6QQR7;
05-JUL-2004
05-JUL-2004
05-JUL-2004
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Q9X520;
30-MAY-2000
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or send a
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"Cloning of the rplA gene encoding
"Cloning of the rplA gene encoding and its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Streptomyces aureofaciens, and its transcriptional analycourse of differentiation.";
Submitted (JAN-1999) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: This protein binds directly to 23S riboson
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30-MAY-2000 (Rel. 39, Last sequence up
55-OCT-2004 (Rel. 45, Last annotation
55 S ribosomal protein L11 (Fragment).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
Hypothetical protein ORFNames=HP1080;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     between the Swiss Institute of Bioinformatics and the Ethe European Bioinformatics Institute. There are no rest use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Streptomyces aureofaciens. Bacteria; Actinobacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HAMAP; MF_00736; -; 1.
InterPro; IPR000911; Ribosomal_L11.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Streptomycineae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROSITE; PS00359; RIBOSOMAL_L11; PARTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; AF120458; AAD24568.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -!- SIMILARITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -!- PTM: One or more lysine residues are methylated (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Name=rplK;
                                                                                                                                                                                                                                                                                                                                                                                                                                       NON TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Methylation; Ribosomal protein; rRNA-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TaxID=1894;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PF00298; Ribosomal
                                                                                                                                                                                                                                                                                                                        l Similarity
5; Conserv
                                                                                                                                                                                                                                         σ
                                                                                                                                                                                                                                                                               3 ARSMG
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5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             s requires a license agreement (S an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VAGAYGGAIDIL 12
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                    (TrEMBLrel. 27, Crea
(TrEMBLrel. 27, Last
(TrEMBLrel. 27, Last
(TremBLrel. 27, Last
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                                                                                                                              PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novakova
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Streptomycetaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                1476 MW;
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va R., Klucar L.,
                                                                                                                                                                                                                                                                                                                                               27.9%;
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41.7%;
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                                        Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                          <u>,,</u>
                                                                                   Created)
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Pred. No
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Pred. No. 5.
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                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                             Mismatches
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                                                                                                                                                                                                                                                                                                                                                                     DB 1;
                                                                                                                                                                                                                                                                                                                                                 6.8e+03;
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RESULT 12
Q9UPE
ID Q9UPE
AC Q9UPE
AC Q9UPE
DT 01-MA
DT 01-DE
INO81
GN Name
OK Homo
OC Eukaz
OC Mamma
OC Mamma
OC Mamma
OC Mamma
OC Mamma
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Matches 4
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Matches 4
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                                                                                                        Q9UPE5;
Q9UPE5;
01-MAY-2000
                                                                                                                                                                                                                                                                                                            Gonzalez-Gomez F., Vergara F., Pedrosa C., Ran Castilla J.A., Yoldi A., Ruiz A., Real L.M.; Submitted (DEC-2000) to the EMBL/GenBank/DDBJ EMBL; AF326912; AAG42501.1; -. GO; GO:0004872; F:receptor activity; IEA.
   SEQUENCE
                               Homo sapiens (Human).
Eukaryota; Metazoa; (
Mammalia; Eutheria; E
                                                                 Name=IMPA2;
                                                                        01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
Inosine monophosphatase 2 (Fragment).
                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                 NON_TER
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                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa;
Mammalia; Eutheria;
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01-JUN-2003
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q9H1Z6;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Helicobacter pylori (Campylobacter pylori).
Bacteria, Proteobacteria, Epsilonproteobacteria, Campylobacterales,
Helicobacteraceae, Helicobacter.
NCBI_TaxID=210;
                    NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                    Receptor.
                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                   Name=ESR1;
                                                                                                                                                                                                                                                                                                                                                                                                                                            Estrogen receptor
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   FROM
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1 (TrEMBLrel. 16,
3 (TrEMBLrel. 24,
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                                                                                                                                                                                                                                                                       12 AA;
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                                                                                                                               PRELIMINARY;
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  N.A
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                                                                                                                                                                                                                                                                      1385 MW;
                                Chordata;
Primates;
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Primates;
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                                                                                                                                                                                                                                      26.7%;
57.1%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Created)
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                                                                                                                                                                                                                                      Score 23;
Pred. No.
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Pred. No.
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                                                                                                                                                                                                                                                                      09168BCB76C41404 CRC64;
                                                                                                                               PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
                                Craniata; V
Catarrhini;
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6.8e+03;
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                                                                                                                                                                                                                                                                                                                                               C., Ramirez J.P.,
L.M.;
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                                Vertebrata; Euteleostomi; 
i; Hominidae; Homo.
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                                                                                                                                                                                                                                                Length 12;
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RESULT 14
Q8UUE1
ID Q8UUE
AC Q8UUE
DT 01-MA

Q8UUE1; Q8UUE1; 01-MAR-2002

(TrEMBLrel.

20,

Created)

PRELIMINARY;

PRT;

16

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RESULT 13
UP07_ORYSA
ID UP07_C
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NON TER
SEQUENCE
                                                                                                                        NON TER
UNSURE
NON CONS
                                                                                                                                                       STRAIN=cv. Indica / IR64; TISSUE=Leaf; Hosseini Salekdeh S.G., Bennett ", "Proteome analysis of rice leaf."; Submitted (JUL-2003) to Swiss-Prot.

-!- MISCELLANEOUS: On the 2D-gel the determined pI c protein is: 6.2, its MW is: 28 kDa.

-!- CAUTION: The order of the peptides is uncertain. Chloroplast; Direct protein sequencing.
                                                                                                                                                                                                                                                                                                                                                              UP07 ORYSA
P83648;
10-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NON_TER
NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Yoshikawa T., Turner v., ---
Yoshikawa T., Turner v., ---
Petera-Wadleigh S.D.;
Petera-Wadleigh S.D.;
"A novel human myo-inositol monophosphatase gene,
susceptibility region for bipolar disorder.";
susceptibility 2:393-397(1997).
                                                                                                                                                                                                                                                                                 Oryza sativa (Rice).

Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;

Ehrhartoideae; Oryzeae; Oryza.
                                                                                                                                                                                                                                                                                                                              10-OCT-2003 (Rel. 42, Created)
10-OCT-2003 (Rel. 42, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Unknown protein from 2D-PAGE of leaf (OsL8) (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mol. Psychiatry 5:165-171(2000).
EMBL; AF025886; AAD22138.1; -.
EMBL; AF025885; AAD22138.1; JOINED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Yoshikawa T., Padigaru
Esterling L.E., Detera
                                                                                                                                                                                                                                                  SEQUENCE.
                                                                                                                                                                                                                                                                     NCBI_TaxID=4530;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=97463449; PubMed=9322233;
Yoshikawa T., Turner G., Esterling L.E.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=20284187
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                      N
                                          Similarity
5; Conserv
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2 VARSMGGKEDL
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1 VAANLGVTEEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a T., Padigaru M., Karkera J.D., g L.E., Detera-Wadleigh S.D.; structure and novel variants of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13
13 AA;
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                                             Conservative
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SEQUENCE
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Birks S.M., Edwards S.V.;

Submitted (JUN-2001) to the EMBL/GenBank/DDBJ databases.

EMBL, AF394658; AAL36886.1; -.

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SEQUENCE 16 AA; 1663 MW; CDC571884A940BF0 CRC64;
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OBUUE2; O1-MAR-2002 (TrEMBLrel. 20, Created)

O1-MAR-2002 (TrEMBLrel. 20, Last sequence update)

O1-MAR-2002 (TrEMBLrel. 20, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Birke S.M., Edwards S.V.;
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EMBL; AF394659; AAL36887.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Megapodius tenimberensis (Tanimbar scrubfowl).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi;
Archosauria, Aves, Neognathae, Galliformes, Megapodiidae, Megapodius.
NCBI_TAXID=177170;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Megapodiidae; Megapodius.
NCBI TaxID=177169;
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Name=RDP1;
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## SUMMARIES

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## ALIGNMENTS

RESULT 1 ADG46076 antibody; carbohydrate-deficient transferrin; CDT; non-glycosylated transferrin; alcoholism; alcoholic; diagnosis; human. 05-JUL-2002; 19-MAY-2003; 2003EP-00011334 EP1378521-A1. Human CDT peptide fragment #2. 25-MAR-2004 ADG46076; ADG46076 standard; peptide; 07-JAN-2004. Homo sapiens. (DADE-) DADE BEHRING MARBURG GMBH 2002DE-01030550 (first entry) 23 ₿

New antibody specific for carbohydrate-deficient transferrin, useful for diagnosis of alcoholism, can bind its target in solution, eliminating need for immobilization.

WPI; 2004-073743/08.

Althaus H;

Claim 4; SEQ ID NO 2; 21pp; German.

This invention describes a novel antibody that, in aqueous solution, binds selectively to carbohydrate-deficient transferrin (CDT) without having to bind CDT to a solid phase. The invention also describes an antibody that binds selectively to CDT at regions containing the sequences VVARSMGGKEDLIWELL, TTEDSIAKIMNGEADAMSLDGGF, SKLSMGSGLNLSEPN and YEKYLGEEYVKAV (ADG46075-ADG46078) and an immunoassay for detecting CDT using the antibodies of the invention. The antibodies of the invention are monoclonal, specifically from hybridomas DSM ACC2540 or 2541. The antibodies are obtained by immunisation with non-glycosylated transferrin, or a fragment, then generation of hybridomas by standard fusion of spleen and myeloma cells. Hybridomas are then selected for production of antibodies that specifically bind CDT from the aqueous phase. The antibodies are useful for diagnosis of alcoholism, CDT, which SKLSMGSGLNLSEPN and

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Matches 23
                                           Transferrin polypeptides and polynucleotides are used to prevent, treat or ameliorate a medical condition in e.g. humans, mice, rabbits, goats, horses, cats, dogs, chickens or sheep. Disorders which are diagnosed or treated include autoimmune diseases e.g. rheumaroid arthritis, cardiovascular disorders e.g. cardiac arrest, cerebrovascular disorders e.g. cardiac arrest, cerebrovascular disorders e.g. cardiac arrest, cerebrovascular disorders e.g. cardiac arrest, viruses and fungi an ocular disorders e.g. angiogenesis, nervous system disorders e.g. Alzheimer's disease, infections caused by bacteria, viruses and fungi an ocular disorders e.g. corneal infection. The polypeptides can also be used to aid wound healing and epithelial cell proliferation, to prevent skin aging due to sunburn, to maintain organs before transplantation, fo supporting cell culture of primary tissues, to regenerate tissues and in chemotaxis. The polypeptides can also be used as a food additive or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 lacks glycosylation at Asn413 and/or Asn 611, is present only in alcoholics. The antibodies allow direct detection of CDT in solution, eliminating the need for immobilising it on a solid phase (as required when using known antibodies). ADG46075-ADG46094 represent CDT peptide fragments used in the method of the invention.
 Sequence
                               preservative to increase
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Transferrin
                                                                                                                                                                                                                                                                                                                              Isolated nucleic acid molecule encoding a human tranferrin protein is used in preventing, treating or ameliorating a medical condition.
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                                                                                                                                                                                                                                                                                                 Claim 11;
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                                                                               The sequence represents an angiotensin converting enzyme splice variant (ACEV) polypeptide. The polypeptides of the invention include variants of granulocyte colony stimulating factor receptor, glucagon, interleukin 6, platelet-derived endothelial cell growth factor, cyclin-dependent kinase inhibitor 1C, cellular tumour antigen P53, and vasoactive intestinal polypeptide receptor 2. The polypeptides and their associated mucleic acids are useful for identification of variant sequences and detection of candidate compounds capable of binding the molecules. The sequences of the invention can be used in the treatment and diagnosis of various disorders including cardiovascular diseases such as arteriosclerosis, myocardial infarction and coronary arterial thrombosis, renal diseases such as diabetic nephropathy, muscular diseases such as hypertrophy, immune disorders such as immune comparation and coronsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Angiotensin converting enzyme splice variant; ACBV; interleukin 6; granulocyte colony stimulating factor receptor; glucagon; hypertroph; platelet-derived endothelial cell growth factor; cardiovascular diseas; cellular tumour antigen P53; cyclin-dependent kinase inhibitor 1C; vasoactive intestinal polypeptide receptor 2; arteriosclerosis; cancer myocardial infarction; coronary arterial thrombosis; renal disease; muscular disease; immune disorder; sarcoidosis; multiple sclerosis; immune complex nephritis; deep vein thrombosis;
                                                 cancer, sarcoidosis, nonarcoidotic pulmonary granulomatous as asbestosis and vascular pathologies involving an endothe
                                                                                                                                                                                                                                                                                                                                                                     Novel alternative splicing variants e.g. variant of angiotensin converting enzyme (ACEV), useful in identifying candidate compounds capable of binding to the variant and to detect anti-variant antiboo
                                 abnormality such as
                                                                                                                                                                                                                                                                                                                                     Claim 4; Fig 80; 519pp; English
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10-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Angiotensin converting enzyme (ACEV) splice variant protein #80
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    vascular disorder;
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99IL-00133455
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95.7%;
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Pred. No. 5
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.6e-09;
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                                                 an endothelial
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Best Local S
Matches 22
         polynuclectides. The human MEPR polypeptides, polynuclectides and modulators are useful for diagnosing, treating or preventing disorders associated with aborrant expression of MEPR, particularly cell cirrhosts, hepatitis, paroxysmal nocturnal hemoglobinuria, polycythemia vera, psoriasis, primary thromobocytopenia or cancer), developmental disorders (e.g. renal tubular acidosis, anemia or mental retardation), neurological disorders (e.g. Alzheimer's disease, Parkinson's disease or epilepsy), autoimmune/inflammatory disorders (e.g. AlDS, allergies, asthma, autoimmune thyroiditis, contact dermatitis, Crohn's disease, disease, Hashimoto's thyroiditis, irritable bowel syndrome, gout, Graves' disease, Hashimoto's thyroiditis, irritable bowel syndrome, multiple sclerosis, osteoporosis, pancreatitis, Reiter's
                                                                                                                                                                                                                                                                                                 New human metalloproteins and polynucleotides, useful for diagnosing, treating or preventing autoimmune or inflammatory disorders (e.g. AIDS, allergy or anemia), multiple sclerosis, osteoarthritis, cancer or
                                                                                                                                                                                                                                                                                                                                                                WPI; 2003-598523/56.
N-PSDB; ACF35812.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          14-JAN-2002; 2002US-0348769P.
18-JAN-2002; 2002US-03567719.
19-MAR-2002; 2002US-0366659P.
10-MAY-2002; 2002US-0379907P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                thyromimetic; neuroprotective; osteopathic; antiarthritic; uropathic; antiparasitic; antihelmintic; antipsoriatic; ophthalmological; viruci antirheumatic; haemostatic; antibacterial; protozoacide; fungicide;
                                                                                                                                                                                                                                                  Claim 1; Page 146-148; 153pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEPR; metalloprotein; anti-HIV; antiallergic; antiinflammatory; human;
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                                                                                                                                                                                                                      The invention
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hepatotropic; dermatological; antidiabetic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  antiarteriosclerotic;
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                                                                                                                                                                                                                                                                                                                                                                                                                             Griffin JA,
M, Chien D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
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95.7%;
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                                                                                                                                                                                                                    to novel human metalloproteins (MEPR) and encoding
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Jin P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INC.
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Pred. No. 1e-08;
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Chawla NK, Yue H,
Sjogren's
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e H, Khare
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Mooney EM, L.
Stevens KA, /
                 The invention relates to novel diagnostic and therapeutic polynucleotides selected from one of the 2722 sequences defined in the specification. A polynucleotide of the invention may have a use in gene therapy. The human diagnostic and therapeutic polynucleotides (dithp) or polypeptides may be used to diagnose a particular condition, disease or disorder associated with human molecules, e.g. cell proliferative disorders, autoimmune/inflammatory disorder, developmental disorders, endocrine disorder, neurological disorders, gastrointestinal disorders, or infections caused by virus, bacteria, fungi or parasite. The dithp molecules may also be used in genetic mapping, in identifying individuals from minute biological samples, in detecting single nucleotide polymorphisms, as molecular weight markers, and for somatic or germline
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Lagace RE,
Xu Y, Kwo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   bacterial, fungal, parasitic, protozoan or helminthic infections. To polynucleotides encoding MEPR are useful for creating transgenic are to model human disease. Sequences ABR82316-323 represent the human polypeptides of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New diagnostic and therapeutic polynucleotides and polypeptides, useful in diagnosing a condition, disease or disorder associated with human molecules, e.g. autoimmune or inflammatory disorders, in gene therapy o
                                                                                                                                                                                                                                                                                                                                                                                                Claim 27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Schmidt JP,
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DB; ACN42434.
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                                                                                                                                                                                                                                                                                                                                                                                             Page; 190pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              wright RJ, Bruns CM, Marjanovic MM, Shen F; e TA, Suchorolski MT, Altus CM, Pitts SJ, Elder I Delegeane AM, Panesar IS, Banville SC, Reddy TP; Blanchard JL, Panzer SR, Wang X, Au AP, Gersti, Anderson SB, Rioux P, Shen EJ, Wu MC, Stuve LI, Spiro PA, Stewart EA, Wingrove J, Vitt UA, Kirtng M, Policky JL, Hurwitz BL, Ma Y, Jackson JL, Shi X, Suarez CJ;
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2002US-0410260P.
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Pred. No. 1.1e-08;
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with human molecules, e.g. cell proliferative disorders, autoimmune/inflammatory disorder, developmental disorder, endocrine disorder, neurological disorders, gastrointestinal disorders, or infections caused by virus, bacteria, fungi or parasite. The dithp molecules may also be used in genetic mapping, in identifying indivifrom minute biological samples, in detecting single nucleotide polymorphisms, as molecular weight markers, and for somatic or germl gene therapy. The present sequence represents a dithp protein of the invention. Note: The sequence data for this patent is not represente
                                                                                                                                                                                                                                                            The invention relates to novel diagnostic and therapeutic polynucleotides selected from one of the 2722 sequences defined in the specification. A polynucleotide of the invention may have a use in gene therapy. The human diagnostic and therapeutic polynucleotides (dithp) or polypeptides may be used to diagnose a particular condition, disease or disorder associated
                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New diagnostic and therapeutic polynucleotides and polypeptides, useful in diagnosing a condition, disease or disorder associated with human molecules, e.g. autoimmune or inflammatory disorders, in gene therapy o
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Peralta CH,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12-SEP-2002; 2002US-0410259P 12-SEP-2002; 2002US-0410260P
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                                                                                                                                                                                                                                                                                                                                                                                                                                             Page; 190pp;
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Spiro PA, Stewart
ang M, Policky JL, 1
Shi X, Suarez CJ;
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TA, Suchorolski MT, Altus CM, Pitts SJ, Elder LV,
TA, Suchorolski MT, Altus CM, Pitts SJ, Elder LV,
Delegeane AM, Pancear IS, Banville SC, Reddy TP;
Blanchard JL, Panzer SR, Wang X, Au AP, Gerstin
Anderson SB, Rioux P, Shen EJ, Wu MC, Stuve LL;
Spiro PA, Stewart EA, Wingrove J, Vitt UA, Kirtor
M, Policky JL, Hurwitz BL, Ma Y, Jackson JL, Gi
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Pred. No. 1.2e-08;
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JL, Gietzen D;
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The invention relates to novel diagnostic and therapeutic polynucleotides considered from one of the 2722 sequences defined in the specification. A CC polynucleotide of the invention may have a use in gene therapy. The human CC diagnostic and therapeutic polynucleotides (dithp) or polypeptides may be used to diagnose a particular condition, disease or disorder associated CC with human molecules, e.g. cell proliferative disorder, endocrine CC autoinmune/inflammatory disorders, gastrointestinal disorders, or CC disorder, neurological disorders, gastrointestinal disorder, endocrine CC infections caused by virus, bacteria, fungi or parasite. The dithp CC molecules may also be used in genetic mapping, in identifying individuals CC from minute biological samples, in detecting single nucleotide collegement therapy. The present sequence represents a dithp protein of the present of the present of the present of the presented in the printed specification, but was obtained in electronic format directly
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12-SEP-2002;
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DB; ACN42431.
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The invention relates to novel diagnostic and therapeutic polynucleotides selected from one of the 2722 sequences defined in the specification. A polynucleotide of the invention may have a use in gene therapy. The human diagnostic and therapeutic polynucleotides (dithp) or polypeptides may be used to diagnose a particular condition, disease or disorder associated with human molecules, e.g. cell proliferative disorders, associated autoimmune/inflammatory disorders, gastrointestinal disorder, endocrine disorder, neurological disorders, gastrointestinal disorders, or infections caused by virus, bacteria, fungi or parasite. The dithp molecules may also be used in genetic mapping, in identifying individuals from minute biological samples, in detecting single nucleotide polymorphisms, as molecular weight markers, and for somatic or germline gene therapy. The present sequence represents a dithp protein of the invention. Note: The sequence data for this patent is not represented in the printed specification, but was obtained in electronic format directly from WIPO at www.wipo.int/pct/en/sequences/listing.htm
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22; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTEDCIAKIMNGEADAMSLDGGF 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTEDSIAKIMNGEADAMSLDGGF 23
                                                                                                                                                                                                                                                                                                                    Page; 190pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            human diagnostic and therapeutic polynucleotide; dithp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              95.7%;
95.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 110; DB 8;
Pred. No. 1.2e-08;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 628;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Stuve LL;
UA, Kirton ES;
son JL, Gietzen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gerstin
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S X
               The invention relates to novel diagnostic and therapeutic polynucleotides selected from one of the 2722 sequences defined in the specification. A polynucleotide of the invention may have a use in gene therapy. The human clasgnostic and therapeutic polynucleotides (dithp) or polypeptides may be used to diagnose a particular condition, disease or disorder associated with human molecules, e.g. cell proliferative disorders, endocrine outcommune/inflammatory disorders, gastrointestinal disorder, endocrine disorder, neurological disorders, gastrointestinal disorders, or infections caused by virus, bacteria, fungi or parasite. The dithp complex also be used in genetic mapping, in identifying individuals from minute biological samples, in detecting single nucleotide polymorphisms, as molecular weight markers, and for somatic or germline gene therapy. The present sequence represents a dithp procein of the invention. Note: The sequence data for this partent is not represented in the printed specification, but was obtained in electronic format directly from WIPO at www.wipo.int/pct/en/sequences/listing.htm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New diagnostic and therapeutic polynucleotides and polypeptides, in diagnosing a condition, disease or disorder associated with humolecules, e.g. autoimmune or inflammatory disorders, in gene the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mooney EM, Delegeane AM,
Stevens KA, Blanchard JI,
Peralta CH, Anderson SB,
Lagace RE, Spiro PA, Ste
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               č
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       molecules, e.g. autoimmune in gene mapping.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Schmidt JP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12-SEP-2002; 2002US-0410259P
12-SEP-2002; 2002US-0410260P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gene therapy; human diagnostic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABM83783 standard; protein; 645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12-SEP-2003; 2003WO-US028227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18-NOV-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABM83783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Harthshorne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (INCY-) INCYTE CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2004-329368/30.
DB; ACN42435.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               27; Page; 190pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          diagnostic and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kwong M, I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Delegeane AM, Panesar IS, Banville SC, Redu
Blanchard JL, Panzer SR, Mang X, Au AP,
Anderson SB, Rioux P, Shen EJ, Wu MC, Sti
Spiro PA, Stewart EA, Wingrove J, Vitt UA,
Spiro PA, Stewart EA, Wingrove J, Vitt UA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ß,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Wright RJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Policky JL, Polick
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Suchorolski MT, Altus CM, Pitts SJ, Elder Lv;
Suchorolski MT, Altus CM, Pitts SJ, Elder Lv;
Panesar IS, Banville SC, Reddy TP;
Au AP, Gerstin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     95.7%;
95.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          therapeutic
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Pred. No. :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            and therapeutic polynucleotide; dithp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Jackson JL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Stuve LL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Kirton ES;
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Sequence 645 AA

Query Match

Length 645;

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RESULT 10

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                                                 The sequence represents an angiotensin converting enzyme splice variant CC (ACEV) polypeptide. The polypeptides of the invention include variants of granulocyte colony stimulating factor receptor, glucagon, interleukin 6, CC glatelet-derived endothelial cell growth factor, cyclin-dependent kinase CC inhibitor 1C, cellular tumour antigen PS3, and vasoactive intestinal CC polypeptide receptor 2. The polypeptides and their associated nucleic CC cids are useful for identification of variant sequences and detection of candidate compounds capable of binding the molecules. The sequences of CC the invention can be used in the treatment and diagnosis of various CC disorders including cardiovascular diseases such as arteriosclerosis, CC myocardial infarction and coronary arterial thrombosis, renal diseases such as diabetic nephropathy, muscular diseases such as hypertrophy, CC immune disorders such as immune complex nephritis, multiple sclerosis, CC cancer, sarcoidosis, nonarcoidotic pulmonary granulomatous diseases such as abbestosis and vascular pathologies involving an endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Angiotensin converting enzyme splice variant; ACEV; interleukin 6; granulocyte colony stimulating factor receptor; glucagon; hypertrophy; platelet-derived endothelial cell growth factor; cardiovascular disease; cellular tumour antigen P53; cyclin-dependent kinase inhibitor 1C; vasoactive intestinal polypeptide receptor 2; arteriosclerosis; cancer; myocardial infarction; coronary arterial thrombosis; renal disease; multiple sclerosis; immune complex nephritis; deep vein thrombosis; nonarcoidotic pulmonary granulomatous disease; endothelial abnormality;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 4; Fig 38; 519pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Novel alternative splicing variants e.g. variant of angiotensin converting enzyme (ACEV), useful in identifying candidate compounds capable of binding to the variant and to detect anti-variant antibodies.
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N-PSDB; AAS06038.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17-NOV-1999;
10-DEC-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      vascular disorder; asbestosis.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTEDCIAKIMNGEADAMSLDGGF 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      David A,
                               such as deep vein thrombosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             converting enzyme (ACEV) splice variant protein #38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99IL-00132978
99IL-00133455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein; 646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             95.7%;
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Pred. No. 1.2e-08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Khosravi R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₽
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                                                      The invention relates to novel diagnostic and therapeutic polynucleotides selected from one of the 2722 sequences defined in the specification. A CC polynucleotide of the invention may have a use in gene therapy. The human CC diagnostic and therapeutic polynucleotides (dithp) or polypeptides may be CC used to diagnose a particular condition, disease or disorder associated CC with human molecules, e.g. cell proliferative disorder, endocrine autoimmune/inflammatory disorders, developmental disorder, or CC disorder, neurological disorders, gastrointestinal disorders, or CC infections caused by virus, bacteria, fungi or parasite. The dithp CC molecules may also be used in genetic mapping, in identifying individuals CC from minute biological samples, in detecting single nucleotide polymorphisms, as molecular weight markers, and for somatic or germline CC gene therapy. The present sequence represents a dithp protein of the CC invention. Note: The sequence represents is not represented in CC the printed specification, but was obtained in electronic format directly crom WIPO at www.wipo.int/pct/en/sequences/listing.htm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Schmidt JP, Wright RJ, Bruns CM, Marjanovic MM, Shen F; Harthshorne TA, Suchorolski MT, Altus CW, Pitts SJ, Elder LV Mooney EM, Delegeane AM, Panesar IS, Banville SC, Reddy TP; Stevens KA, Blanchard JL, Panzer SR, Wang X, Au AP, Gerstin Peralta CH, Anderson SB, Rioux P, Shen EJ, Wu MC, Stuve LL; Lagace RE, Spiro PA, Stewart EA, Wingrove J, Vitt UA, Kirtol Xu Y, Kwong M, Policky JL, Hurwitz BL, Ma Y, Jackson JL, G Patury S, Shi X, Suarez CJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New diagnostic and therapeutic polynucleotides and polypeptides, useful in diagnosing a condition, disease or disorder associated with human molecules, e.g. autoimmune or inflammatory disorders, in gene therapy or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 27; Page; 190pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              in gene mapping.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-PSDB;
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12-SEP-2002;
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2002US-0410260P
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                                           granulocyte colony stimulating factor receptor, glucagon, interleukin 6, platelet-derived endothelial cell growth factor, cyclin-dependent kinase inhibitor 1C, cellular tumour antigen PS3, and vasoactive intestinal polypeptide receptor 2. The polypeptides and their associated nucleic acids are useful for identification of variant sequences and detection of candidate compounds capable of binding the molecules. The sequences of the invention can be used in the treatment and diagnosis of various disorders including carddovascular diseases such as arteriosclerosis, myocardial infarction and coronary arterial thrombosis, renal diseases such as diabetic nephropathy, muscular diseases such as hypertrophy, immune disorders such as immune complex nephritis, multiple sclerosis, cancer, sarcoidosis, nonarcoidotic pulmonary granulomatous diseases such as asbestosis and vascular pathologies involving an endothelial
                                                                                                                                                                                                                                                                                                                                                                            Novel alternative splicing variants e.g. variant of angiotensin converting enzyme (ACEV), useful in identifying candidate compounds capable of binding to the variant and to detect anti-variant antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Angiotensin converting enzyme splice variant; ACEV; interleukin 6; granulocyte colony stimulating factor receptor; glucagon; hypertrophy; platelet-derived endothelial cell growth factor; cardiovascular disease; cellular tumour antigen P53; cyclin-dependent kinase inhibitor 1C; vasoactive intestinal polypeptide receptor 2; arteriosclerosis; cancer; myocardial infarction; coronny arterial thrombosis; renal disease; diabetic nephropathy; muscular disease; immune disorder; sarcoidosis; multiple sclerosis; immune complex nephritis; deep vein thrombosis;
                                                                                                                                                                                                                                                                 The sequence represents an angiotensin converting enzyme splice variant (ACEV) polypeptide. The polypeptides of the invention include variants of the invention include variants of the invention include variants of the polypeptides of the invention include variants.
                                                                                                                                                                                                                                                                                                                                              Claim
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10-DEC-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          David A,
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99IL-00133455
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95.7%;
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Pred. No. 1.2e
0; Mismatches
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L.2e-08;
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Matches 22
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; transferrin; neuroprotective; cerebroprotective; vasotropic; antiparkinsonian; nootropic; anti-HIV; antiasthmatic; antiallergic; cytostatic; immunosuppressive; antiatherosclerotic; cardiant;
Binding-site
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                                                                                                                                                                                                                                                  Binding-site
                                                                                                                                                                                                                                                                                                                                    Modified-site
                                                                                                                                                                                                                                                                                                                                                                          Binding-site
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                /note=
                                                                                                                                                                                                      /note=
452
                                                                                                                                                                                                                                                                                                                                                                            /note=
392
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                                                                                                                          458
                                                                                                                                                                   456
                                                                                                                                                                                                                                                    426
                                                                                                                                                                                                                                                                                       /note= "N-glycosylated"
425. .427
                                                                                                                                                                                                                                                                                                                                    413
                                                                                                                                                                                                                                                                                                                                                                                                                     316.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    126
                                                                                                                                                                                  /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        245. .247
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                                                                                                                                               /note=
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                                                                                                                                                                                                                                                                                                                                                    /note= "Iron binding site"
                                                                                                                                                                                                                                                                                                                                                                                                                                       /note= "Iron binding site"
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95.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                       .318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Iron binding site"
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                     "Iron binding
                                                                                                                                                                                                                            "Iron binding site"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Carbonate ion binding
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                                                             "Carbonate ion binding
                                                                                                                                           "Carbonate ion binding
                                                                                                                                                                                     "Carbonate ion binding
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Carbonate ion binding
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Pred. No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
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                                                                                                      ion
                                                                                                    binding
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                                                               gite'
                                                                                                                                                                                       site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     site'
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             site"
                                                                                                                                               site"
                                                                                                      gite"
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RESULT 14
ADH89360
ID ADH89
XX
AC ADH89
XX
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CC preferably comprises a human Tf molety that has been modified to reduce CC or prevent glycosylation, iron binding and/or transferrin receptor CC binding, having at least one amino acid substitution, deletion or CC addition in the hinge region, or at residues Asp-63, Gly-65, Tyr-95, Tyr-CC 188, Lys-206, His-207, His-249, Asp-32, Tyr-426, Tyr-514, Tyr-517, His-CC 585, Thr-120, Arg-124, Ala-126, Gly-127, Thr-452, Arg-456, Ala-458 and CC Gly-459, or a mutation which prevents glycosylation at Asn-413 or Asn-611 CC (all claimed). Nucleic acids encoding such fusion proteins, vectors, host CC cells and transgenic animals which produce the fusion protein in useful for CC treating a disease or disease symptom, or for delivering a therapeutic cagent complexed to the ferric iron of transferrin to the inside of a cell CC agent complexed to the ferric iron of transferrin to the inside of a cell cor across the blood-brain barrier. The modified fusion protein, or a CC nucleic acid encoding it, can be used in the diagnosis, prognosis, prevention and/or treatment of diseases and/or disorders of the CC endocrine, nervous, immune, respiratory, cardiovascular, reproductive and CC cell proliferation, inflammatory conditions, and to treat viral, fungal,
                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                ADH89360 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 679 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 proteins comprising at least one therapeutic protein, polypeptide or peptide, in which the Tf portion is engineered to extend the serum half-life or bloavailability of the molecule. The modified Tf fusion protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present sequence is the protein sequence of human transferrin (Tf), minus the signal peptide. The invention relates to modified Tf fusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New fusion protein, useful in the diagnosis and treatment of disease disorders relating to the respiratory, cardiovascular and digestive systems, comprises a transferrin protein fused to a therapeutic protein fused to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30-AUG-2001;
30-NOV-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Region
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                                                                                                                                                                                                                                                                                                                                                                                                         Local
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                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
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                                                                                                                                                                                                                                                                                                                                                                            Conservative
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2001US-0334059P
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611
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652. .658
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581. .582
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                                                                                             protein; 679
                                                                                                                                                                                                                                                                                                                                                                                                         95.7%;
95.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             infection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Hinge region
                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                         Score 110; DB 6;
Pred. No. 1.3e-08;
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                                                                                                                                                                                                                                                                                                                                                                            Mismatches
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RESULT 15
ADK15869
ID ADK15
XX
AC ADK15
XX
AC ADK15
XX
AC MAC15
XX
XX
XX
XX
AC MACUX
XX
AC MACUX
XX
AC MACUX
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Best Local S
Matches 22
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30-NOV-2001;
30-AUG-2002;
30-AUG-2002;
                                                                                                                                                                                                                                                                                                                                                     This invention relates to a novel fusion protein which comprises a transferrin protein exhibiting reduced glycosylation fused to at least one antibody variable region. The invention may be useful for the development of compounds with cytostatic, antibacterial, virucide, antiparasitic, immunosuppressive or antiarthritic activity. In addition, the sequences disclosed may be useful for gene therapy. The fusion protein is useful for preparing a composition for treating a disease or disease symptom in a patient for example septic shock, endotoxic shock, cachexia syndromes associated with bacterial, viral or parasitic infections, neoplasm, autoimmune disease, arthritis or adverse effects associated with treatment for preventing graft rejection. The present sequence is that of the mature human transferrin protein which is related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   antiparasitic; immunosuppressive; antiarthritic; gene therapy; septic shock; endotoxic shock; cachexia syndrome; bacterial infectivital infection; parasitic infection; neoplasm; autoimmune disease; arthritis; graft rejection; human.
                                                                                                                                                                                                                                                                                                            Sequence 679 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           preparing a composition autoimmune disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New fusion protein comprising a transferrin protein exhibiting reduced glycosylation fused to at least one antibody variable region, useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N-PSDB; ADH89358.
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                                                                            ADK15869;
                                                                                                         ADK15869 standard; protein;
                                                                                                                                                                                                                                                                                                                                           to the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; SEQ ID NO 3; 82pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               10-MAR-2003;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  antibody variable region;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15-APR-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (BIOR-) BIOREXIS PHARM CORP
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                                                                                                                                                                                     373
                                                                                                                                                                                                                 μ
                                                                                                                                                                                                                                                l Similarity
22; Conserv
                                                                                                                                                                                                       TTEDSIAKIMNGEADAMSLDGGF 23
                                                                                                                                                                                     TTEDCIAKIMNGEADAMSLDGGF 395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; 2001US-0315745P.
; 2001US-0334059P.
; 2002US-00231494.
; 2002US-0406977P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Prior CP,
                                                                                                                                                                                                                                                  Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               transferrin protein; glycosylation;
                                                                                                                                                                                                                                                           95.7%;
95.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          for treating e.g., septic shock,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cytostatic;
                                                                                                         679
                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                Score 110; DB
Pred. No. 1.3e
0; Mismatches
                                                                                                         A
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                                                                                                                                                                                                                                           DB 8,
1.3e-08;
1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              acid
                                                                                                                                                                                                                                                                          8; Length 679;
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                                                                                                                                                                                                                                                  Indels
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Mature human

transferrin (Tf) protein.

06-MAY-2004

(first entry)

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                                                                                                                   Query Match
Best Local S
Matches 22
                                                                                                                                         The invention comprises a fusion protein that contains a modified transferrin (Tf) protein fused to a therapeutic protein/peptide (e.g. beta-interferon - IFN, glucagons-like peptide - GLP-1, erythropoietin mimetic peptide - EMP1, T-20 and soluble toxin receptor). The fusion protein of the invention is useful for epitope tagging. The present amino acid sequence represents the mature human Tf protein.
                                                                                                                                                                                                                                                                                                                                                                                                     30-AUG-2001; 2001US-0315745P.
30-NOV-2001; 2001US-0334059P.
30-AUG-2002; 2002US-00231494.
30-AUG-2002; 2002US-0406977P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    fusion protein; transferrin; Tf; beta-interferon; beta-IFN; glucagons-like peptide; GLP-1; erythropoietin mimetic peptide; EMP1; T-20; soluble toxin receptor; epitope tagging; human.
                                                                                                                  Sequence 679 AA;
                                                                                                                                                                                                                                              Example 5;
                                                                                                                                                                                                                                                                       New fusion protein comprising a modified transferrin (Tf) protein fused to a therapeutic protein or peptide, useful for epitope tagging.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            04-MAR-2003; 2003US-00378094.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens.
                                                                                                                                                                                                                                                                                                                   WPI; 2004-010899/01.
                                                                                                                                                                                                                                                                                                                                                Prior CP,
                                                                                                                                                                                                                                                                                                                                                                            (BIOR-) BIOREXIS PHARM CORP.
  373
                                                         l Similarity
22; Conserv
                   1 TTEDSIAKIMNGEADAMSLDGGF 23
TTEDCIAKIMNGEADAMSLDGGF 395
                                                                                                                                                                                                                                                                                                                                              Lai C,
                                                                                                                                                                                                                                           SEQ ID NO 3; 70pp; English.
                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                Sadeghi H,
                                                                       95.7%;
95.7%;
                                                           0; Mismatches
                                                                          Score 110; DB 8; Length 679; Pred. No. 1.3e-08;
                                                                                                                                                                                                                                                                                                                                                Turner A;
                                                           Indels
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Search completed: November 1, Job time : 132.574 secs 2005, 12:48:52

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No.
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score
         seq length: 0
seq length: 2000000000
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Match Length DB
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1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*

2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*

3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*

4: /cgn2_6/ptodata/1/iaa/FCTUS_COMB.pep:*

5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*

6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*
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Copyright (c) 1993 - 2005 Compugen Ltd.
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US-09-439-740-2
US-09-4470-058-4
US-09-285-310-2
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US-08-456-108-6
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US-08-456-108-6
US-08-456-108-6
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Query Match 95.7%; Score 110; DB 2; Length 698; Best Local Similarity 95.7%; Pred. No. 1e-09; Matches 22; Conservative 0; Mismatches 1; Indels 0;	WS-08-175-158A-2  US-08-175-158A-2  US-08-175-158A-2  US-08-175-158A-2  Sequence 2, Application US/08175158A  Sequence 2, Application US/08175158A  Sequence 2, Application US/08175158A  Patent No. 5986067  GENERAL INFORMATION: MASCULIVRAY, ROSS T.A.  APPLICANT: MASCULIVRAY, ROSS T.A.  APPLICANT: MASCULIVRAY, ROSS T.A.  APPLICANT: MASCULIVRAY, ROSS T.A.  APPLICANT: WOODWORTH, RODERT C.  PITTLE OF INVENTION: MACCULES AND MUTANTS THEREOF  NUMBER OF SEQUENCES: 7  CORRESPONDENCE ADDRESS:  ADDRESSEE: LAHIVE & COCKFIELD  STREET: 60 State Street, Suite 510  CITY: BOSTON  STATE: MASSACHUSETTS  COUNTRY: USA  ZIP: 02109  COMPUTER REBADABLE FORM:  MEDIUM TYPE: Floppy disk  COMPUTER REBADABLE FORM:  COMPUTER: ISM PC Compatible  COMPUTER: SASCII text  COMPUTER: SASCII text  COMPUTER: ASCII text  COMPUTER: ASCII text  COMPUTER: ASCII text  COMPUTER: ASCII Text  COMPUTER: SASCII TEXT  APPLICATION NUMBER: US 08/175,158A  FILING DATE: 28-DEC-193  CLASSIFICATION DATA:  APPLICATION MOTA:  APPLICATION MOTA:  APPLICATION MOTA:  APPLICATION MOTA:  APPLICATION MOTA:  APPLICATION MOTA:  APPLICATION DATA:  APPLICATION MOTA:  APPLICATION MOTA:	ALIGNMENTS .	28 90 78.3 711 1 US-08-145-681-2 Sequence 29 90 78.3 711 1 US-08-250-308-2 Sequence 30 90 78.3 711 1 US-08-154-019-4 Sequence 31 90 78.3 711 1 US-08-453-703-2 Sequence 32 90 78.3 711 1 US-08-456-106-2 Sequence 33 90 78.3 711 2 US-08-456-106-2 Sequence 34 90 78.3 711 3 US-08-456-108-2 Sequence 35 90 78.3 711 3 US-09-158-313-4 Sequence 36 90 78.3 711 3 US-09-158-77-2 Sequence 37 90 78.3 711 3 US-09-158-77-2 Sequence 38 90 78.3 711 3 US-09-265-77-2 Sequence 40 90 78.3 711 3 US-09-265-77-2 Sequence 41 77 67.0 708 1 US-08-456-108-4 Sequence 42 77 67.0 708 1 US-08-456-106-4 Sequence 43 77 67.0 708 3 US-08-456-108-4 Sequence 44 77 67.0 708 3 US-08-456-108-4 Sequence 59 90 83 US-08-456-108-4 Sequence 59 90 90 90 90 90 90 90 90 90 90 90 90 90
98;			Sequence 2, App Sequence 4, App Sequence 2, App Sequence 2, App Sequence 2, App Sequence 4, App Sequence 4, App Sequence 2, App Sequence 2, App Sequence 2, App Sequence 2, App Sequence 2, App Sequence 4, App
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TTEDSIAKIMNGEADAMSLDGGF 23

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RESULT 2
US-09-439-740-2
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US-08-470-058-2
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                             Sequence 2, Application US/08470058
PAtent No. 5817789
GENERAL INFORMATION:
APPLICANT: Heartlein, Michael W.
APPLICANT: Lemontt, Jeffrey F.
TITLE OF INVENTION: Chimeric Proteins For Use in Transport
TITLE OF INVENTION: of a Selected Substance Into Cells
NUMBER OF SEQUENCES: 12
                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: (617) 227-7400
TELEFAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                tent No.
CORRESPONDENCE ADDRESS:
ADDRESSEE: Hamilton, Brook, Smith & Reynolds, P.C.
                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTMARE: ASCII text
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: MASON, Anne B.
APPLICANT: WOODWORTH, ROBERT C.
TITLE OF INVENTION: RECOMBINANT TRANSFERRINS, TRANSFERRIN HALF-
TITLE OF INVENTION: MOLECULES AND MUTANTS THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: UV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION: NAME: DeConti, Giulio A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION: PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: DeConti, Giulio A. REGISTRATION NUMBER: 31,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: FILING DATE: CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET:
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                                                                                                                                                                                                                                             TTEDCIAKIMNGEADAMSLDGGF 414
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       698 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60 State Street, suite 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MacGILLIVRAY,
                                                                                                                                                                                                                                                                                                               Conservative
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FUNK, Walter D.
TILIVRAY, Ross T.A.
                                                                                                                                                                                                                                                                                                                              95.7%;
95.7%;
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Pred. No. 1e-09;
                                                                                                                                                                                                                                                                                                                                                  DB 4;
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RESULT 4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-037-188-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local 9
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows95
SOFTWARE: FASTSEQ for Windows Versic
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/037,188
FILING DATE: 02-MAR-1998
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE: 06-JUN-1995
ATTORNEY/AGENT INFORMATION:
NAME: FYSSEY, Ph.D., J.D., Janis K.
REGISTRATION NUMBER: 34,819
REFERENCE/DOCKET NUMBER: 07236/00900
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
APPLICANT: Heartlein, Michael W.
APPLICANT: Lemontt, Jeffrey F.
APPLICANT: Concino, Michael F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: 617-861-9540 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP: 02173
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION UNBER: US/08/470,058 FILING DATE: 06-UN-1995 CLASSIFICATION: 530 ATTORNEY/AGENT INFORMATION: NAME: Granahan, Patricia
                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardso
STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: Granahan, Patricia
REGISTRATION NUMBER: 32,227
REFERENCE/DOCKET NUMBER: TK
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: amino acid
STRANDEDNESS: un
                                                                                                                                                                                                                                                                                   COUNTRY: USA
ZIP: 02110-2804
                                                                                                                                                                                                                                                                                                                  STATE:
                                                                                                                                                                                                                                                                                                                                      CITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: Two Militia Drive CITY: Lexington
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   768
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               , Application US/09037188 6027921
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                                                                                                                                                                                                                                                                                                                                    Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTEDCIAKIMNGEADAMSLDGGF 790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTEDSIAKIMNGEADAMSLDGGF 23
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95.7%;
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Pred. No. 1.7e
0; Mismatches
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                     07236/009002
                                                      Janis K.
                                                                                                                                                                                              Version
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..7e-09;
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TELEPHONE:

617/542-8906

617/542-5070

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                                                                                                                         US-09-285-310-2
                                                                           Query Match
Best Local
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                     TELEX: 200154
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM Compacture
COMPUTER: IBM Compacture
COMPUTER: VINCOME Windows Version 2.0
COURRENT APPLICATION DATA
APPLICATION NUMBER: US/09/285,310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
LENGTH: 1074 amino acids
TYPE: amino acid
                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 1074 amino acids
                                                                                                                                                                                                                                                                 NAME: Fraser, Ph.D., J.D., Janis K.
REGISTRATION NUMBER: 34,819
REFERENCE/DOCKET NUMBER: 07236/0090
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617/542-5070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY: USA
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Heartlein, Michael W.
APPLICANT: Lemontt, Jeffrey F.
APPLICANT: Concino, Michael F.
TITLE OF INVENTION: CHIMERIC PROTEINS FOR USE
TITLE OF INVENTION: IN TRANSPORT OF A SELECTED SUBSTANCE INTO CELLS
NUMBER OF SEQUENCES: 12
                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION DATA: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Ri
                                                                                                                                          MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY:
                                                                                                                                                                                                                                                   TELEFAX:
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                                                                            Similarity
                                                                                                                                                                     amino acid
                              TTEDSIAKIMNGEADAMSLDGGF 23
                                                                                                                                                                                                                                                     617/542-8906
                                                                                                                                                         unknown
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95.7%;
                                                                           95.7%;
95.7%;
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Pred. No. 1.7e-09;
                                                                           Score 110; DB 3;
Pred. No. 1.7e-09;
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                                                             Mismatches
                                                                                          Length 1074;
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US-08-470-058-4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 95.7
22; Conservative
                                                                                                                                                                                                                                                                                     Sequence 4, Application US/09037188
Patent No. 6027921
GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
APPLICANT: Heartlein, Michael
APPLICANT: Lemontt, Jeffrey F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: 617-861-9540
INFORMATION FOR SEQ ID NO: 4:
                                                                                                                                                                                                                                  APPLICANT: 1
APPLICANT: 1
APPLICANT: 1
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RAMB: Granahan, Patricia
REGISTRATION NUMBER: 32,227
REFERENCE/DOCKET NUMBER: TK
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617-861-6240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/08/470,058
FILING DATE: 06-UUN-1995
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                          NUMBER OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson P.C
                                                                                                                                                                                              APPLICANT: Lemontt, Jeffrey F.
APPLICANT: Concino, Michael F.
TITLE OF INVENTION: CHYMERIC PROTEINS FOR USE
TITLE OF INVENTION: IN TRANSPORT OF A SELECTED SUBSTANCE INTO CELLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY: unknown MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
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CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
ADDRESSEE: Hamilton, Brook,
STREET: Two Militia Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: Chimeric Proteins For Use in TITLE OF INVENTION: of a Selected Substance Into
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE: 617-861-9540
                                                     COUNTRY: USA
ZIP: 02110-2804
                                                                                         CITY: Boston
STATE: MA
                                                                                                                       STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acid
STRANDEDNESS: unl
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 TTEDSIAKIMNGEADAMSLDGGF 23
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                                                                                                                           225 Franklin Street
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                                                                                                                                                                                                                                                                        Heartlein, Michael W.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 110; DB 2;
Pred. No. 2.4e-09;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
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Cells
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OPERATING SYSTEM:

Windows95

for Windows Version 2.0 US/09/037,188

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Best Local Similarity
Matches 22; Conserv
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Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE: 06-JUN-1995
ATTORNEY/AGENT INFORMATION:
NAME: Fraser, Ph. D., J.D., Janis K.
REGISTRATION NUMBER: 34,819
REFERENCE/DOCKET NUMBER: 07236/009002
TELECHONE 617/542-5070
TELEPHONE: 617/542-8906
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                    ATTORNEY AGENT INFORMATION:
ATTORNEY AGENT INFORMATION:
NAME: FTABER: Ph.D., J.D., Ja.
REGISTRATION NUMBER: 34,819
REFERENCE, DOCKET NUMBER: 0723
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617/542-5070
TELEPHONE: 617/542-8906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INFORMATION FOR SEQ ID NO: 4:
                                                                                                                                                                                                            FILING DATE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDLUM TYPE: Diskettle
COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows95
SOFTWARE: FastSEQ for Windows Version:
APPLICATION NUMBER: US/09/285,310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson P.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Heartlein, Michael W.
APPLICANT: Lemontt, Jeffrey F.
APPLICANT: Concino, Michael F.
TITLE OF INVENTION: CHIMERIC PROTEINS FOR USE
TITLE OF INVENTION: IN TRANSPORT OF A SELECTED SUBSTANCE INTO CELLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: unknown MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 1410 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: 02-MAR-1998 PRIOR APPLICATION DATA: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: FastSEQ for CURRENT APPLICATION DATA: APPLICATION NUMBER: US
                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY: USA
ZIP: 02110-2804
                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: 225 |
CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                              STATE:
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95.7%;
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                                                                                                                  07236/009002
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Pred. No. 2.4e-09;
0; Mismatches 1
                                                                                                                                                    Janis K.
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RESULT 10
5262177-4
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5262177-4
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PATENT NO. 5262177

APPLICANT: BROWN, JOSEPH P., ESTIN, CHARLES D., PLOWMAN, GREGORY

D., HELLSTROM, KARL E., ROSE, TIMOTHY M., HELLSTROM, INGEGERD,

PURCHIO, ANTHONY F., HU, SHIU-LOK, PENNATHUR, SRIDHAR

TITLE OF INVENTION: RECOMBINANT VIRUSES ENCODING THE HHUMAN

MELANOMA-ASSOCIATED ANTIGEN

NUMBER OF SEQUENCES: 6

CURRENT APPLICATION DATA:
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; APPLICANT: BROWN, J OSEPH P.;ESTIN, CHARLES D.;PLOWMAN, GREGORY
; D.;HELLSTROM, KARL B.;ROSE, TIMOTHY M.;HELLSTROM, INGEGERD;
; DURCHIO, ANTHONY F.;HU, SHIU-LOK;PENNATHUR, SRIDHAR
; TITLE OF INVENTION: RECOMBINANT VIRUSES ENCODING THE HHUMAN
;MELANOMA-ASSOCIATED ANTIGEN
; NUMBER OF SEQUENCES: 6
; CURRENT APPLICATION DATA;
; CURRENT APPLICATION DATA;
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                                                                                                                                                                           SEQ ID NO:4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID NO:4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Loc
Matches
                                                                       Matches
                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
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                                                                                                                                                                                          APPLICATION NUMBER: US/07/
FILING DATE: 27-JAN-1987
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 827,313
FILING DATE: 07-FEB-1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/07/
FILING DATE: 27-JAN-1987
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 827,313
FILING DATE: 07-FEB-1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity 91.:
nes 21; Conservative
                                                                                                                                                          LENGTH: 696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 696
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1104
 392
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                                                                   21;
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TTEDCIAKIMN-EADAMSLDGGF 413
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                               TTEDSIAKIMNGEADAMSLDGGF 23
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                                                                     Conservative
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95.7%;
                                                                                      81.3%;
91.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            81.3%; Score 93.5; DB 6;
91.3%; Pred. No. 5.4e-07;
tive 0; Mismatches 1
                                                                                                                                                                                                                                                                     US/07/7230
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                                                                     Score 93.5; DB 6;
Pred. No. 5.4e-07;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 110; DB 3;
Pred. No. 2.4e-09;
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                                                                       Indels
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                                                                     Gaps
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RESULT 11 US-09-724-864-54 ; Sequence 54, Application US/09724864

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US-08-145-681-6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
APPLICANT: Conneely
APPLICANT: Headon,
APPLICANT: O'Malley
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Matches 18; Conserv
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APPLICANT: Watson, James D
APPLICANT: Murison, James G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 6,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: Polynucleotides, polypeptides expressed TITLE OF INVENTION: by the polynucleotides and methods for their use. FILE REFERENCE: 11000.1050U1 CURRENT APPLICATION NUMBER: US/09/724,864 CURRENT FILING DATE: 2000-11-28 PRIOR APPLICATION NUMBER: U.S. No. 6380362 60/171,678 PRIOR APPLICATION NUMBER: U.S. No. 6380362 60/171,678
                                                                                                                                                                                                                 CLASSIFICATION: 435
ATTORNEY JAGENT INFORMATION:
NAME: MCGregor, Martin L.
REGISTRATION NUMBER: 29,329
REFERENCE/DOCKET NUMBER: 1992
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQ ID NOS:
SOFTWARE: FastSEQ fo
                 LENGTH: 703 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: YES
ANTI-SENSE: NO
                                                                                                                TELEPHONE: 713/229/1874
TELEPAX: 713/229/1522
TELEPAX: 713/229/1522
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 703 amino acids
                                                                                                                                                                                                                                                                                                                                                                COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/145,681
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: May, Gregory S.

TITLE OF INVENTION: Production of Recombinant Lactoferrin
TITLE OF INVENTION: and Lactoferrin Polypeptides Using cDNA Sequences
TITLE OF INVENTION: Various Organsims
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STATE: Texas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CITY: Houston
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            391 TTEDCIEKIVNGEADAMTLDGG 412
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910 Louisiana St
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         USA
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O'Malley, Bert W.
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                                                                                                                                                                                                                                                19928-0125
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Pred. No. 9.6e-07;
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                                                                                                                                         US-08-453-703-6
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US-08-453-703-6
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Patent No. 5766939
GENERAL INFORMATION:
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                                                                    Matches
                                                                                                  Query Match
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                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/08/453,703
FILING DATE: Concurrently herewith CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/145,681
FILING DATE: October 28, 1993
ATTORNEY/AGENT INFORMATION:
NAME: Albert P. Halluin
REGISTRATION NUMBER: 25,227
REFERENCE/DOCKET NUMBER: 8206-024
                                                                                                                                                                                                                                                                               TELEFAX: 415-854-3694
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 703 amino acids
                                                                                                                                                      HYPOTHETICAL: YES
ANTI-SENSE: NO
ORIGINAL SOURCE:
ORGANISM: Sus scrofa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Ploppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Conneely, Orla M.
APPLICANT: Headon, Denis R.
APPLICANT: O'Malley, Bert W.
APPLICANT: May, Gregory S.
TITLE OF INVENTION: Production of Recording of Invention: and Lactoferrin Potential Of Invention: Various Organisms
                                                                                                                                                                                                            LENGTH: 703 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: YES
                                                                                                                                                                                                                                                                                                                                                        TELECOMMUNICATION INFORMATION: TELEPHONE: 415-854-3660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
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390 TTEDCIVQVLKGEADAMSLDGGF 412
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                                                                  l Similarity
17; Conserv
                               1 TTEDSIAKIMNGEADAMSLDGGF 23
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1155 Avenue of the Americas
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                                                                    Conservative
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                                                                  Score 92; DB
Pred. No. 9.7e
3; Mismatches
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Pred. No. 9.7e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Version #1.25
                                                                                                      Length 703;
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                                                                    Indels
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                                                                    Gaps
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Sequence:
Patent No. 610002.

Patent No. 610002.

Patent No. 610002.

Patent No. 610002.

APPLICANT: Conneely, Orla M.
APPLICANT: Headon, Denis R.
APPLICANT: Headon, Denis R.
APPLICANT: May, Gregory S.

APPLICANT: May, Gregory S.

TITLE OF INVENTION: Production of Recombinant Lactoferrin
TITLE OF INVENTION: Various Organisms

NUMBER OF SEQUENCES: 14
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Best Local Similarity
Matches 17; Conserv
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APPLICATION NUMBER: 08/145,681

FILING DATE: October 28, 1993

ATTONUSY/AGENT INFORMATION:

NAME: Albert P. Halluin

REGISTRATION NUMBER: 25,227

REFERENCE/DOCKET NUMBER: 8206-02

TELECOMMUNICATION INFORMATION:

TELEPHONE: 415-854-3660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: protein HYPOTHETICAL: YES ANTI-SENSE: NO ORIGINAL SOURCE: ORGANISM: Sub scrofa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
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[INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tent No.
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: FOR COMPATING SYSTEM: PC-DOS/MS-DOS
SOFTMARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/08/456,106
FILING DATE: Concurrently herewith
CLASSIFICATION: 435
CLASSIFICATION: 435
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APPLICANT: Headon, Denis R.
APPLICANT: O'Malley, Bert W.
APPLICANT: O'Malley, Bert W.
APPLICANT: May, Gregory S.
APPLICANT: May
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 703 amino acids TYPE: amino acid TOPOLOGY: linear
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Search completed: November Job time : 34.8235 secs
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ORGANISM:
US-08-456-108-6
                                                                                                                                    Best Loc
Matches
                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/145,681
FILING DATE: October 28, 1993
ATTORNEY/AGENT INFORMATION:
NAME: Albert P. Halluin
REGISTRATION NUMBER: 25,227
REFERENCE/DOCKET NUMBER: 8206-02
TELECOMMUNICATION INFORMATION:
TELECHNONE: 415-854-3640
                                                                                                                                                                                                                                                                     LENGTH: 703 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: YES
                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: 415-854-3694
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                      HYPOTHETICAL: Y
ANTI-SENSE: NO
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
LENGTH: 703 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION UNMERR: US/08/456,108
FILING DATE: Concurrently herewith
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE:
STREET: 115
CITY: New Y
                                                                                                                                    Local Similarity
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COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                   390 TTEDCIVQVLKGEADAMSLDGGF 412
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New York
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55 Avenue of the
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73.9%;
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ER: 8206-023
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                 2005, 12:57:30
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                                                                                                                                  Score 92; DB
Pred. No. 9.7e
3; Mismatches
                                                                                                                                                                      Length 703;
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Database
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 2000000000
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Perfect score:
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Published Applications AA:*

1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*

2: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*

3: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*

4: /cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep:*

5: /cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep:*

6: /cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep:*

7: /cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep:*

9: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*

9: /cgn2_6/ptodata/1/pubpaa/US09A_PUBCOMB.pep:*

10: /cgn2_6/ptodata/1/pubpaa/US09A_PUBCOMB.pep:*

11: /cgn2_6/ptodata/1/pubpaa/US09C_PUBCOMB.pep:*

13: /cgn2_6/ptodata/1/pubpaa/US09C_PUBCOMB.pep:*

14: /cgn2_6/ptodata/1/pubpaa/US09C_PUBCOMB.pep:*

15: /cgn2_6/ptodata/1/pubpaa/US10A_PUBCOMB.pep:*

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16: /cgn2_6/ptodata/1/pubpaa/US10A_PUBCOMB.pep:*

17: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*

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19: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*

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21: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*

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24: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*

25: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*
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Copyright (c) 1993 - 2005 Compugen Ltd.
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

11 10 10 10 10 10 10 10 10 10 10 10 10 1	Result
11100	Score
95.7 95.7 95.7 95.7 95.7 95.7 95.7	Query Match
328 328 679 679 679 679 679 679 679	Length
15 15 15 15 15 15 15 15 15 15 15 15 15 1	DB
US-10-612-162-2 US-09-891-126-5 US-10-266-745-5 US-10-318-094-3 US-10-314-494-3 US-10-429-482-4 US-10-429-497-4 US-10-429-588-4 US-10-429-588-4 US-10-429-588-4	SUMMARIES ID
Sequence 2, Appli Sequence 5, Appli Sequence 5, Appli Sequence 3, Appli Sequence 3, Appli Sequence 4, Appli	Description

RESULT 2 US-09-891-126-5

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US-10-612-162-2

Query Match Best Local S Matches

0

## CURRENT APPLICATION NUMBER: US/10/612,162 CURRENT FILING DATE: 2003-07-03 PRIOR APPLICATION NUMBER: 10230550.1 PRIOR FILING DATE: 2002-07-05 PRIOR APPLICATION NUMBER: 03011334.4 PRIOR FILING DATE: 2003-05-19 NUMBER OF SEQ ID NOS: 4 SOFTWARE: Patentin Ver: 2.1 SEQ ID NO 2 LENGTH: 23 TYPE: PRT ORGANISM: Homo sapiens Sequence 2, Application US/10612162 Publication No. US20040014145A1 GENERAL INFORMATION: APPLICANT: Dade Behring Marburg GmbH TITLE OF INVENTION: Carbohydrate deficient transferrin (CDT)-specific TITLE OF INVENTION: antibodies, their preparation and use FILE REFERENCE: 2002/B001 1 TTEDSIAKIMNGEADAMSLDGGF 23 1 TTEDSIAKIMNGEADAMSLDGGF 23 h 100.0%; Score 115; DB 15; Similarity 100.0%; Pred. No. 5.5e-11; 23; Conservative 0; Mismatches 0; Length 23; Indels 0

US-10-612-162-2

ALIGNMENTS

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CURRENT APPLICATION NUMBER: US/09/891,126
CURRENT FILING DATE: 2001-06-26
PRIOR APPLICATION NUMBER: PCT/US00/34769
PRIOR FILING DATE: 2000-12-21
PRIOR APPLICATION NUMBER: 60/171,595
PRIOR FILING DATE: 1999-12-23
NUMBER OF SEQ ID NOS: 7
SOFTWARE: PATENTIN Ver. 2.0
SEQ ID NO 5
LENGTH: 328
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US-10-266-745-5
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Sequence 3, Application US/10378094
Publication No. US20030221201A1
GENERAL INFORMATION:
APPLICANT: PRIOR, Christopher P.
APPLICANT: LAI, Char-Huei
APPLICANT: SADEGHI, Homayoun
APPLICANT: TURNER, Andrew
TITLE OF INVENTION: MODIFIED TRANSFERRIN FUSION PROTEINS
FILE REFERENCE: 54710-5001-01-US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 5, Application US/10266745
Publication No. US20030149256A1
GENERAL INFORMATION:
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Best Local &
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LENGTH: 328
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Best Local Similarity
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APPLICANT: Ruben et al.

TITLE OF INVENTION: Transferrin Polynucleotides, Polypeptides, and Antibodies
FILE REFERENCE: PT035P1
CURRENT APPLICATION NUMBER: US/10/266,745
CURRENT FILING DATE: 2002-10-09
PRIOR APPLICATION NUMBER: US/9/891,126
PRIOR PILING DATE: 2001-06-26
PRIOR FILING DATE: 2001-06-26
PRIOR PILING DATE: 2000-12-21
PRIOR APPLICATION NUMBER: PCT/US00/34769
PRIOR FILING DATE: 2000-12-21
PRIOR PILING DATE: 2000-12-21
PRIOR APPLICATION NUMBER: 60/171,595
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Patent No. US20020072596A1
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TITLE OF INVENTION: Transferrin Polynucleotides, Polypeptides, and Antibodies
FILE REFERENCE: PT035P1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR FILING DATE: 1999-12-23
NUMBER OF SEQ ID NOS: 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT
ORGANISM: Homo sapiens
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95.7%;
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CURRENT APPLICATION NUMBER: US/10/378,094
CURRENT FILING DATE: 2003-03-04
PRIOR APPLICATION NUMBER: US 10/231,494
PRIOR FILING DATE: 2002-08-30
PRIOR REPLICATION NUMBER: US 60/334,059
PRIOR FILING DATE: 2001-11-30
PRIOR FILING DATE: 2001-08-30
NUMBER OF SEQ ID NOS: 66
SOFTWARE: PATENTIN OS: 66
SOFTWARE: PATENTIN OS: 66
SOFTWARE: PATENTIN OS: 66
SOFTWARE: PATENTIN OS: 679
LENGTH: 679
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                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION NUMBER: US 10/231,494
PRIOR FILLING DATE: 2002-08-30
PRIOR PELICATION NUMBER: US 60/334,059
PRIOR FILLING DATE: 2001-11-30
PRIOR FILLING DATE: 2001-08-30
PRIOR FILLING DATE: 2001-08-30
PRIOR APPLICATION NUMBER: US 60/406,977
PRIOR FILLING DATE: 2002-08-30
PRIOR FILLING DATE: 2002-08-30
PRIOR FILLING DATE: 2002-08-30
NUMBER OF SEQ ID NOS: 80
                                                                                                                                                                                                                                                                                                              SOFTWARE: PatentIn version 3.2 SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 3, Application US/10384060 Publication No. US20030226155A1
                                                                              Matches
                                                                                                                        Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: SADEGHI, Homayoun
APPLICANT: PRIOR, Christopher P.
APPLICANT: TURNER, Andrew
TITLE OF INVENTION: MODIFIED TRANSFERRIN-ANTIBODY FUSION PROTEINS
FILE REFERENCE: 54710-5004-US
CURRENT APPLICATION NUMBER: US/10/384,060
CURRENT FILING DATE: 2003-03-10
                                                                                                                                                                          FEATURE:
NAME/KBY: MISC FEATURE
OTHER INFORMATION: Mature Transferrin Protein
                                                                                                                                                                                                                                              LENGTH: 679
TYPE: PRT
ORGANISM: Homo sapiens
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                                                                                                    Local Similarity
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373
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  TTEDCIAKIMNGEADAMSLDGGF 395
                                                                                 Conservative
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Pred. No. 1.8e-08;
0; Mismatches 1,
                                                                                                    Score 110; DB 15;
Pred. No. 1.8e-08;
                                                                                                                      Length 679;
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US-10-231-494-3
; Sequence 3, Application US/10231494
; Publication No. US20040023334A1
; GENERAL INFORMATION:

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NUMBER OF SEQ ID NOS: 6
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
LENGTH: 679
TYPE: PRT
ORGANISM: Homo sapiens
US-10-429-497-4
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CURRENT FILING DATE: 2002-08-30
PRIOR APPLICATION NUMBER: US 60/315,745
PRIOR FILING DATE: 2001-08-30
PRIOR APPLICATION NUMBER: US 60/334,059
PRIOR FILING DATE: 2001-11-30
NUMBER OF SEQ ID NOS: 30
SOFTWARE: Patentin Ver: 2.1
SEQ ID NO 3
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US-10-429-497-4
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US-10-429-482-4
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Publication No. US20040219097A1
GENERAL INFORMATION:
APPLICANT: Sandhu, Jasbir
TITLE OF INVENTION: Composition Useful For The Diagnosis, Imaging and Treatment Of TU
FILE REFERENCE: 2537.000001
CURRENT APPLICATION NUMBER: US/10/429,482
CURRENT FILING DATE: 2003-05-02
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Publication No. US20040219098A1
GENERAL INFORMATION:
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Best Local Similarity
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Best Local (
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                                                                                                                                   APPLICANT: Sandhu, Jasbir
TITLE OF INVENTION: Methods For The Treatment of Tumors
FILE REFERENCE: 2537.000006
CURRENT APPLICATION NUMBER: US/10/429,497
CURRENT FILING DATE: 2003-05-02
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SOFTWARE: PatentIn version 3.1
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TITLE OF INVENTION: Modified Transferrin Fusion Proteins
FILE REFERENCE: 54710-5001-US
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ORGANISM: Homo sapiens
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ORGANISM: Homo sapiens
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Pred. No. 1.8e-08;
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Pred. No. 1.8e-08;
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; APPLICANT: Sandhu, Jasbir
; TITLE OF INVENTION: Methods For The Treatment Of Tur
; FILE REFERENCE: 2537.00005
; CURRENT APPLICATION NUMBER: US/10/429,515
; CURRENT FILING DATE: 2003-05-02
; NUMBER OF SEQ ID NOS: 6
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 4
; LENGTH: 679
; TYPE: PRT
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US-10-429-635-4
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US-10-429-598-4
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Sequence 4, Application US/10429635
Publication No. US20040219101A1
GENERAL INFORMATION:
APPLICANT: Sandhu, Jasbir
TITLE OF INVENTION: Composition Useful For Treatment Of Tumors
FILE REFERENCE: 2537.000007
CURRENT APPLICATION UNMERE: US/10/429,635
CURRENT FILING DATE: 2003-05-02
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Publication No. US20040219100A1
GENERAL INFORMATION:
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Publication No. US20040219099A1
GENERAL INFORMATION:
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LENGTH: 679
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SOFTWARE: PatentIn version 3.1
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                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT ORGANISM: Homo sapiens
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Similarity 95.7%;
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Pred. No. 1.8e-08;
0; Mismatches 1
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Pred. No. 1.8e-08;
0; Mismatches 1
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Pred. No. 1:8e-08;
0; Mismatches 1;
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Sequence 4, Application US/10429653
Publication No. US20040219102A1
GENERAL INFORMATION:
APPLICANT: Sandhu, Jasbir
TITLE OF INVENTION: Compositions For Drug Delivery
FILE REFERENCE: 2537.000009
CURRENT APPLICATION NUMBER: US/10/429,653
CURRENT FILING DATE: 2003-05-02
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin version 3.1
SEQ ID NO 4
LENGTH: 679
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SEQ ID NO 4
LENGTH: 679
TYPE: PRT
ROBANISM: Homo sapiens
US-10-429-659-4
RESULT 14
US-10-429-661-4
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US-10-429-659-4
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US-10-429-653-4
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Publication No. US20040219103A1
GENERAL INFORMATION:
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SOFTWARE: PatentIn version
SEQ ID NO 4
LENGTH: 679
                                                                                                                        Query Match 95.7
Best Local Similarity 95.7
Matches 22; Conservative
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Best Local Similarity
Matches 22; Conserv
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Best Local Similarity
Matches 22; Conserv
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TITLE OF INVENTION: Methods Useful For The Diagnosis, Imaging
FILE REFERENCE: 2537.000004
CURRENT APPLICATION NUMBER: US/10/429,659
CURRENT FILING DATE: 2003-04-30
NUMBER OF SEQ ID NOS: 8
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ORGANISM: Homo sapiens
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ORGANISM: Homo sapiens
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Pred. No. 1.8e-08;
0; Mismatches 1;
                                                                                                                                       Score 110; DB 16;
Pred. No. 1.8e-08;
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Pred. No. 1.8e-08;
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                                                                                                                            Mismatches
                                                                                                                                                        DB 16;
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GENERAL INFORMATION:

APPLICANT: Sandhu, Jasbir
TITLE OF INVENTION: Methods For Treatment Of Tur
FILE REFERENCE: 2537,000008
CURRENT APPLICATION NUMBER: US/10/429,661
CURRENT FILING DATE: 2003-05-02
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin version 3.1
SEQ ID NO 4
LENGTH: 679
TYPE: PRT
ORGANISM: Homo sapiens
US-10-429-661-4
Search completed: November Job time: 116.353 secs
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US-10-429-660-4
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                                                                                                                                                                                                                                                                                        Sequence 4, Application US/10429660
Publication No. US20040220084A1
GENERAL INFORMATION:
APPLICANT: Sandhu, Jasbir
TITLE OF INVENTION: Methods For Nucleic Acid Delivery
FILE REFERENCE: 2537,000012
CURRENT APPLICATION NUMBER: US/10/429,660
CURRENT FILING DATE: 2003-05-02
NUMBER OF SEQ ID NOS: 12
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SEQ ID NO 4
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TYPE: PRT
ORGANISM: Homo sapiens
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             2005, 13:26:06
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Pred. No. 1.8e-08;
0; Mismatches 1;
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Pred. No. 1.8e-08;
0; Mismatches 1
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Listing first 45 summaries
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2: pir2:*
3: pir3:*
4: pir4:*
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Copyright (a) 1993 - 2005 Compugen Ltd.
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Description  transferrin precur  transferrin precur  transferrin precur  transferrin precur  transferrin precur  transferrin precur  ransferrin precur  lactoferrin precur  lactoferrin precur  lactoferrin - goat  ovotransferrin precur  transferrin - Atla  phosphate ABC tran  phochatical prote  probable membrane-  transferrin - bovi  transferrin pretur  transferrin con  transferrin precur  transferrin precur  transferrin precur  transferrin con  probable membrane-  virulence sensor p  virulence sensor p  virulence sensor p  protein (C1823 C (i  hypothetical prote  transcription regu  sensor protein kir		•	Δυν. Δυν.	1000 11110 1110 110
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;Molecule type: mRNA ;Residues: 422-690,'G',692-698 <uza> ;Residues: 422-690,'G',592-698 <uza> ;Cross-references: EMBL.M12525; NID:g33946 ;;MacGillivray, R.T.A.; Mendez, E.; Sinha, ;roc. Natl. Acad. Sci. U.S.A. 79, 2504-2508</uza></uza>	A;Residues: 1-72;291-300 <adr> A;Cross-references: EMBL:M15678 R;Uzan, G.; Frain, M.; Park, I.; Besmond, C.; Maessen, G. Biochem. Biophys. Res. Commun. 119, 273-281, 1984 A;Title: Molecular cloning and sequence analysis of cDNA A;Reference number: A32739; MUID:84153910; PMID:6322780 A;Accession: A32739</adr>	A;Residues: 73-263,'E',265-328,'N',330-562 <par> A;Cross-references: EMBL:M11361 A;Cross-references: EMBL:M1361 A;Cross-references: EMBL:M1361 A;Arian, G.S.; Korinek, B.W.; Bowman, B.H.; Yang, F. Gene 49, 167-175, 1986 A;Title: The human transferrin gene: 5' region contains A;Title: The human transferrin gene: 5' region contains A;Reference number: A29090; MUID:87192006; PMID:3106157 A;Accession: A29090 A;Molecule type: DNA</par>	R;Park, I.; Schaeffer, E.; Sidoli, A.; Baralle, F.E.; Cohen Proc. Natl. Acad. Sci. U.S.A. 82, 3149-3153, 1985 A;Title: Organization of the human transferrin gene: direct A;Reference number: A94044; MUID:85216459; PMID:3858812 A;Accession: A94044	A;Accession: A92417 A;Molecule type: protein A;Residues: 20-263,'E',265-328, A;Note: the sequence shown is t	A;Restques: 1-59 (TAN) A;Restques: 1-59 (TAN) A;Cross-references: UNIPROT:P02787; EMBL:M12530; NID:g339452; A;Note: the authors translated the codon CAA for residue 203 (A;Note: the authors translated the codon CAA for residue 203 (A;Note: the authors translated the codon CAA for residue 203 (A;Note: the authors translated 203 (A;Note: the authors translated 203 (A;Note: the primary structure of human serum transferrin. The A;Reference number: A92417; MUID:83160878; PMID:6833213	C;Species: Homo sapiens (man) C;Date: 15-Oct-1982 #sequence revision 30-Sep-1993 #text c;C;Datesion: A20981; A92417; A94044; A29090; A32739; I5195 C;Accession: A20981; A92417; A94044; A29090; A32739; I5195 R;Yang, F; Lum, J.B.; McGill, J.R.; Moore, C.M.; Naylor, Proc. Natl. Acad. Sci. U.S.A. 81, 2752-2756, 1984 A;Title: Human transferrin: cDNA characterization and chrowall appears and Captonia A;Contents: variant Captonia	RESULT 1 TFHUP transferrin precursor [validated] N;Alternate names: siderophilin		4442	39 40	3 3 3 3 7 8 8	ພູພູພ ພູພູພູ
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g339 inha 4-25	ond, 73-2 79-2	0-562 , B.H 5' re 2006;	; Ba 9-31 ansf 6459	0-37 domi	MBL: don hewa	n 30 A290 Moor 2-27 4084	human	1.108	299	126 176	9 0 2 4 0 3 4 0 6	71 49 94
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N: AA Sutt	88en Of c	, F. ntai 1061	ne: 8588	82-4 ctro	NID: resi ; Si ; Si nsfe	39; 39; Nay 1 and						
PIDN:AAA61142.1; K.; Sutton, M.R.; 1982	DNA		Coh dire	'N',330-379,'SD',382-435,'D',437-557,'' he predominant electrophoretic genetic.	g33s due nha, rrin	Sep-1993 #text_change 09-Jul-2004 (c) A32739; I51959; I63133; I54011; I (c) C.M.; Naylor, S.L.; van Bragt, P.H (c) 1984 (c) 1984 (c) Castion and chromosomal localization PMID:6585826						
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A;Gene: GDB:TF
A;Cross-references: GDB:120432; OMIM:190000
A;Cross-references: GDB:120432; OMIM:190000
A;Map position: 3q21-3q21
A;Map position: 3q2
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A;Molecule type: mRNA
A;Residues: 636-696 <RE2>
A;Cross-references: GB:M26641; NID:g339988; PIDN:AAA61233.1; PID:g339989
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A;Cross-references: GB:M26641; NID:g339988; PIDN:AAA61233.1; PID:g339989
A;Cross-reference; JUD:G6641; MID:g339988; PIDN:AAA61233.1; PID:g339989
A;Title: Complete structure of the human transferrin gene. Comparison wit
A;Reference number: I54011; MUID:88056305; PMID:3678832
A;Accession: I54011
                                    C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 30-Sep-1993 #sequence revision 30-Sep-1993 #text change 22-Jun-1999
C;Accession: S16246; A61239; Č61573; S00335; S02694; A26504; S14853
R;Banfield, D.K.; Chow, B.K.C.; Funk, W.D.; Robertson, K.A.; Umelas, T.M.; Woodworth, Biochim. Biophys. Acta 1089, 262-265, 1991
A;Title: The nucleotide sequence of rabbit liver transferrin cDNA.
A;Reference number: S16246; MUID:91274362; PMID:2054387
A;Accession: S16246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Description: binds iron for delivery into cells
C;Superfamily: transferrin; transferrin repeat homology
C;Keywords: duplication; glycoprotein; iron transport; metal binding; plasma
C;Keywords: duplication; glycoprotein; iron transport; metal binding; plasma
F;1-19/Domain: signal sequence #status predicted <SIG>
F;20-698/Product: transferrin #status experimental <MANT>
F;20-350/Domain: transferrin repeat homology <TRH1>
F;356-686/Domain: transferrin repeat homology <TRH2>
F;38-67,38-58,137-213,156-350,177-193,180-196,190-198,246-260,358-615,364-396,374-387,42
F;432,630/Binding site: carbohydrate (Asn) (covalent) #status experimental
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A;Title: A cloned gene for human transferrin.
A;Reference number: I51959; MUID:92231399; PMID:1809186
A;Accession: I51959
A; Molecule
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A;Cross-references: GB:M17614; NID:g339483; PIDN:AAA61148.1; C;Comment: Each of the two repetitive domains binds a ferric
                                                                                                                                                                                                                                                                                                                                                                                                                                           transferrin precursor - rabbit
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A; Residues: 1-72 < RE3 >
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95.7%;
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Pred. No. 2.
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A, Molecule type: protein
A, Residues: 482-515,'V',517-544 <EVA>
A, Residues: 482-515,'V',517-544 <EVAP
A, Rote: 516-11e was also found
R, Heaphy, S.; Williams, J.
Biochem, J. 205, 611-617, 1982
A; Hitle: The preparation and partial characterization of N-terminal and C-terminal iron-A; Reference number: A26504; MUID:83074540; PMID:6816218
A; Residues: 19-24,'N',26,'X',28-29,'S' <HEA>
C; Superfamily: transferrin; transferrin repeat homology
C; Keywords: duplication; glycoprotein; iron transport; metal binding; plasma
F; 1-18/Domain: signal sequence #status predicted <SIG-F; 19-694/Product: transferrin repeat homology <TRH1>
F; 19-349/Domain: transferrin repeat homology <TRH1>
F; 27-66,37-57,136-212,155-349,176-192,179-195,189-197,245-259,357-611,363-395,373-386,42
F; 508/Binding site: carbohydrate (Asn) (covalent) #status experimental
                                                                                                                                        Biochim. Biophys. Acta 1173, 230-232, 1993
A;Title: The cDNA sequence of horse transfe
A;Reference number: S33761; MUID:93277958;
A;Accession: S33761
A;Moleculo France
                                                                                                                                                                                                                                                                                   transferrin precursor - horse
NyAlternate names: growth-promoting factor
C;Species: Equus caballus (domestic horse)
C;Date: 06-Jan-1995 #sequence_revision 06-.
C;Accession: S33761; S02145
R;Carpenter, M.A.; Broad, T.E.
R;Carpenter, M.A.; Broad, T.E.
A;Cross-references: UNIPROT:P27425; EMBL:M69020; NID:g164242; PIDN:AAA30958.1; PID:g1642
A;Experimental source: liver; developmental stage adult
R;Yoshinari, K.; Yuasa, K.; Iga, F.; Mimura, A.
                                                                                                  A; Molecule type: mRNA
A; Residues: 1-706 < CAR>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Title: Evidence for a single glycan moiety in rabbit serum A;Reference number: S02694; MUID:89005676; PMID:3169252 A;Accession: S02694
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A; Residues: 19-45, 'S', 47-48, 'Y', 50 <GOD>
R; Evans, R. W.; Aitken, A.; Patel, K.J.
FEBS Lett. 238, 39-42, 1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Biol. Chem. Hoppe-Seyler 369, 93-96, 1988
A;Title: Isolation, characterization and N-terminal amino-acid sequence of rabbit transf
A;Reference number: S00335; MUID:88209278; PMID:3365331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: protein
A; Residues: 19-26,'X',28-36,'X',38-53 <CHU>
R; Godovac-Zimmermann, J.
R; Godovac-Zimmermann, J.
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R;Chung, M.C.M.; Chan, S.L.; Shimizu, S.
Int. J. Biochem. 23, 609-616, 1991
A;Title: Purification of transferrins and lactoferrin using A;Reference number: A61573; MUID:91293379; PMID:2065820
A;Accession: C61573
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Cell. Immuno
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Best Local Similarity
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Residues: 19-36 <PIE>
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rpaoli, W.; Dall'Ara, A.; Yi, C.; Neri, P.; Santucci, A.; Choay, Immunol. 134, 225-234, 1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 391
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87.0%;
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MUID:93277958; PMID:8504171
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A; Molecule type: mRNA
A; Residues: 15-80;81-141;217-251;252-301 <CHE>
A; Residues: 15-80;81-141;217-251;252-301 <CHE>
A; Residues: 15-80;81-141;217-251;252-301 <CHE>
A; Cross-references: UNIPROT: Q92111
A; Note: the authors translated the codon ACC for residue 61 as Tyr, TCC f R; Idzerda, R.L.; Behringer, R.R.; Theisen, M.; Huggenvik, J.I.; McKnight, Mol. Cell. Biol. 9, 5154-5162, 1989
Mol. Cell. Biol. 9, 5154-5162, 1989
A; Title: Expression from the transferrin gene promoter in transgenic mice A; Reference number: A33482; MUID:90097932; PMID:2601714
A; Accession: A33482; MUID:90097932; PMID:2601714
A; Accession: A33482; MUID:90097932; PMID:2601714
A; Residues: 1-14;302-311 <IDZ>
A; Cross-references: GB:M30819; GB:M30820
R; Pentecost, B.T.; Teng, C.T.
J. Biol. Chem. 262, 10134-10139, 1987
A; Title: Lactotransferrin is the major estrogen inducible protein of mous A; Accession: B28438
A; McCession: B28438
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(;Date: 30-Jun-1989 #sequence revision 05-Dec-1997 #text_ch
C;Accession: A28446; A33482; B28438
R;Chen, L.H.; Bissell, M.J.
J. Biol. Chem. 262, 17247-17250, 1987
A;Tiblo: Transferrin mRNA level in the mouse mammary gland A;Reference number: A28446; MUID:88086992; PMID:3693348
A;Accession: A28446
C;Species: Sus scrofa domestica (domestic pig) C;Date: 10-Sep-1999 #sequence revision 10-Sep-1999 C;Accession: S0.1384; A60520; A61573 R;Baldwin, G.S.; Weinstock, J.
                                                                                                                            RESULT
S01384
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C/Keywords: duplication; glycoprotein; iron transport; metal binding; plasma
F;1-19/Domain: signal sequence #status predicted <SIG>
F;20-706/Product: transferrin #status experimental <MAT>
F;358-694/Domain: transferrin repeat homology <TRH2>
F;26-64,36-55,134-215,174-190,177-198,187-200,248-262,360-623,366-398,376-389,423-701,44
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A;Residues: 20-35,'X',37,'X',39-40,'X',43-44 <YOS>
C;Complex: monomer
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A,Title: A growth-promoting
A,Reference number: S02145;
A,Accession: S02145
                                                                                                  transferrin - pig
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Residues: 86-216 <PEN>;Cross-references: GB:J03299; GB:J02737; NID:g198847; PIDN:AAA39438.1;
;Cross-references: GB:J03299; GB:J02737; NID:g198847; PIDN:AAA39438.1;
;Superfamily: transferrin; transferrin repeat homology
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g factor for human
; MUID:89076897; 1
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Pred. No. 4.4e-07;
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Pred. No. 7.4e-07;
2; Mismatches 2
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397; PMID:2909248
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, J.I.; McKnight, G.S.; Brinst
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A;Molecule type: mRNA
A;Residues: 1-11, 'W', 13-50, 'I', 52-84, 'G', 86-120, 'L', 121-130, 'I'
A;Residues: 1-11, 'W', 13-50, 'I', 52-84, 'G', 86-120, 'L', 121-130, 'I'
A;Cross-references: EMBL:M92089; NID:g164613; PIDN:AAA31102.1;
A;Experimental source: mammary gland
C;Superfamily: transferrin; transferrin repeat homology
C;Keywords: duplication; glycoprotein; iron; iron binding; meta
C;Keywords: duplication; glycoprotein; iron; iron binding; meta
F;1-19/Domain: signal sequence #status predicted <NGT>
F;20-703/Product: lactoferrin #status predicted <MAT>
F;20-350/Domain: transferrin repeat homology <TRH1>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Residues: 1-703 <ALE>
A;Cross-references: UNIPROT: P14632
A;Cross-references: UNIPROT: P14632
A;Experimental source: mammary gland
A;Note: sequence extracted from NCBI backbone (NCBIN:111151, NCBIP:111153)
A;Note: Sequence extracted from NCBI backbone (NCBIN:111151, NCBIP:111153)
A;Lydon, J.P.; O'Malley, B.R.; Saucedo, O.; Lee, T.; Headon, D.R.; Conneel
Biochim. Biophys. Acta 1132, 97-99, 1992
                                                                                                                                                                                                                                                                                                                                                                                                            Biochim. Biophys. Acta 1132, 97-99, 1992
A;Title: Nucleotide and primary amino acid sequence of porcine
A;Reference number: S24173; MUID:92379101; PMID:1511016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C;Date: 17-Feb-1994 #sequence_revision 17-Feb-1994 #text_ch C;Accession: A45543; S24173 C;Accession: A45543; S24173 R;Alexander, L.J.; Levine, W.B.; Teng, C.T.; Beattie, C.W. Anim. Genet. 23, 251-256, 1992 A;Title: Cloning and sequencing of the porcine lactoferrin A;Reference number: A45543; MUID:92367939; PMID:1503259
F;36-48/Region: antimicrobial
F;354-691/Domain: transferrin repeat homology <TRH2>
F;28-62,38-53,129-212,171-187,184-195,245-259,362-394,372-385,419-698,439-661,471-546,4
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C;Species: Sus scrofa domestica (domestic pig)
C;Nara: 17-Feb-1994 #sequence_revision 17-Feb-1994 #text_change
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Status: preliminary A;Molecule type: mRNA
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A; Accession: A45543
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A;Title: Nucleotide sequence of porcine liver transferrin.
A;Reference number: S01384; MUID:88335629; PMID:3419934
A;Accession: S01384
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A;Residues: 1-8,'X',10-18,'XE' <CHU>
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A;Molecule type: protein
A;Residues: 1-8, 'X', 10-11, 'X', 13-15 <BA2>
A;Experimental source: gastric mucosa
A;Experimental source: gastric mucosa
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A;Residues: 1-696 <BAL>
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No. 1.9e-06;
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A;Note: sequence modified after extraction from NCBI backbone
A;Note: sequence extracted from NCBI backbone (NCBIP:86115, NCBIP:86116, NCBI
R;Purves, L.R.; Purves, M.; Linton, N.; Brandt, W.; Johnson, G.; Jacobs, P.
Biochim. Biophys. Acta 966, 318-327, 1988
A;Title: Properties of the transferrin associated with rat intestinal mucosa.
A;Reference number: A30512; MUID:88327006; PMID:3046665
A;Accession: A30512; MUID:88327006; PMID:3046665
A;Ressidues: 20-30;639-643, 'KD', 646, 'LKACD' < PUR>
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A;Residues: $18-687, 'D, 689-692,'TA',695 <HUG>
A;Residues: $18-687, 'D, 689-692,'TA',695 <HUG>
A;Cross-references: $GB.W27966; NID:9207439; PIDN:AAA42267.1; PID:9207440
A;Schreiber, $G.; Dryburgh, $H.; Millership, $A.; Matsuda, Y.; Inglis, $A.; I

J. Biol. Chem. 254, 12013-12019, 1979
A;Title: The synthesis and servicion of rat transferrin.
A;Reference number: A14679; MUID:80049855; PMID:500689
A;Accession: A14679
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A; Residues: 89, 'Y', 91'A', 93-99, 'V', 101-102; 'N', 233, 'AN', 236-243; 401-406, 'N',
A; Experimental source: lung
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A; Residues: 20-47 < SCH>
R; Cavanaugh, P.G.; Nicolson, G.L.
J. Cell. Biochem. 47, 261-271, 1991
A; Title: Lung-derived growth factor that stimulates the
A; Reference number: A53289; MUID:92165927; PMID:1791188
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Residues:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Status: preliminary
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Status: preliminary
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Species: Rattus norvegicus (Norway rat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 17; Conserv
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3; Mismatches
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Biochem. Biophys. Res. Commun. 122, 960-965, 1984
A;Title: Synthesis of rat transferrin in Escherichia coli containing
A;Reference number: I52203, MUID:84307580; PMID:6236811
A;Acession: I52203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Molecule type: mRNA
A;Residues: 1-148,'T',150-422,'C',424-711 <REY>
A;Residues: 1-148,'T',150-422,'C',424-711 <REY>
A;Cross-references: EMBL:X53961; NID:934415; PIDN:CAA37914.1;
R;Teng, C.T.; Liu, Y.; Yang, N.; Walmer, D.; Panella, T.

Wol. Endocrinol. 6, 1969-1981, 1992
A;Title: Differential molecular mechanism of the estrogen act:
A;Reference number: A45401; MUID:93125571; PMID:1480183
A;Accession: A45401
                                                                                                                                                                                                                                                                                                        A;Note: sequence extracted from NCBI backbone (NCBIP:122202) R;Powell, M.J.; Ogden, J.E. Nucleic Acids Res. 18, 4013, 1990 Nucleic Nucleotide sequence of human lactoferrin cDNA. A;Reference number: S10324; MUID:90326549; PMID:2374734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Cross-references: EMBL:U07643; NID:g467236; PIDN:AAB60324.1; R;Rey, M.W.; Woloshuk, S.L.; deBoer, H.A.; Pieper, F.R. Nucleic Acids Res. 18, 5288, 1990.

A;Title: Complete nucleotide sequence of human mammary gland la, Reference number: S11228; MUID:90384839; PMID:2402455
                                                                      A;Title: Expression of cloned human lactoferrin A;Reference number: S15853; MUID:91264786; PMID:A;Accession: S15853
                                                                                                                                             A;Cross-references: EMBL:X52941; NID:g34411; PIDN:CAA37116.1; R;Stowell, K.M.; Rado, T.A.; Funk, W.D.; Tweedie, J.W. Biochem. J. 276, 349-355, 1991
                                                                                                                                                                                                                              A;Accession: S10324
A;Molecule type: mRNA
A;Residues: 3-711 <POW>
                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: GB:S52659; NID:g263311; PIDN:AAB24877.1; A;Experimental source: placenta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule type: DNA
A; Residues: 1-15 < TEN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          submitted to the EMBL Data Library, A;Reference number: G06820 A;Accession: G01394
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A;Cross-references: GB:M26113; NID:g207437; PIDN:AAA42266.1;
A; Molecule type: mRNA
A; Residues: 20-31 <ST1>
                                           A;Status: nucleic
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A; Residues: 7-25, 'X',
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Best Local S
Matches 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;Species: Homo sapiens (man)
;Species: Homo sapiens (man)
;Date: 31-Mar-1992 #sequence revision 21-Nov-1997 #text change 08-Dec-2000
;Date: 31-Mar-1992 #sequence revision 21-Nov-1997 #text change 08-Dec-2000
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                                           acid sequence not
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81.8%;
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Pred. No. 3.9e
2; Mismatches
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                                              shown;
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PMID:2049066
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                                                conceptual translation
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lactoferrin precursor - mouse

N;Alternate names: lactotransferrin
C;Species: Mus musculus (house mouse)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_chan
C;Accession: A28438; A41205
R;Pentecost, B.T.; Teng, C.T.
J. Biol. Chem. 262, 10134-10139, 1987
A;Title: Lactotransferrin is the major estrogen inducible pro
A;Reference number: A92596; MUID:87280033; PMID:3611056
A;Recession: A28438
A;Molecule type: mRNA
A;Residues: 3-707 <PEN>
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A;Residues: 20-28,'X',30-31 <ST2>
R;Rado, T.A.; Wei, X.; Benz Jr., E.J.
Blood 70, 989-993, 1987
A;Title: Isolation of lactoferrin cDNA from a human myeloid library and expression (A;Reference number: S07160; MUID:88001031; PMID:3477300
A;Accession: S07160
A;Accession: S07160
A;Accession: S07160
A;Accession: 436-487,'A', 489-711 <RAD>
A;Residues: 436-487,'A', 489-711 <RAD>
A;Residues: 436-487,'A', 489-711 <RAD>
A;Conserveferences: EMBL:M18642; NID:g186815; PIDN:AAA86665.1; PID:g386855
A;Croses-references: EMBL:M18642; NID:g186815; C.T.
Cancer Res. 51, 3037-3043, 1991
A;Reference number: A61169; MUID:91235214; PMID:1674448
A;Reference number: A61169; MUID:91235214; PMID:1674448
A;Accession: A61169
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A;Molecule type: protein
A;Residues: 20-140,142-169,171-203,'L',205,'K',207-208,'K',210-385,'Q',387-391,'W',
A;Note: this is the final paper in a series
R;Houen, G.; Hoegdall, E.V.; Barkholt, V.; Norskov, L.
Bur. J. Biochem. 241, 303-308, 1996
A;Title: Lactoferrin: simi-308, 1996
A;Reference number: S74119; MUID:97054624; PMID:8898921
A;Accession: S74119
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A; Residues: 3-701, 'SWKPVN' <PAN>
A; Residues: 3-701, 'SWKPVN' <PAN>
A; Experimental source: normal breast tissue
R; Metz-Boutigue, M.H.; Jolles, J.; Mazurier,
Eur. J. Biochem. 145, 659-666, 1984
Eur. J. Biochem. 145, 659-666, 1984
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C;Superfamily: transferrin; transferrin repeat homology
C;Keywords: duplication; glycoprotein; iron binding; milk
F;1-19/Domain: signal sequence #status predicted <SIG>
F;20-711/Product: lactotransferrin #status experimental <MAT>
F;21-356/Domain: transferrin repeat homology <TRH1>
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A;Residues: 'G',23-24,'R',26-27,'XX',30-32 <HOU>
A;Experimental source: neutrophil granulocytes
C;Genetics:
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A;Title: Human lactotranaferrin: amino acid sequence and A;Reference number: A31000; MUID:85076667; PMID:6510420
A;Accession: A31000
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Best Local S
Matches 17
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;29-65,39-56,135-218,177-193,190-201,251-265,503-697,595-609/Disulfide bonds: #status e
;157,498/Binding site: carbohydrate (Asn) (covalent) #status experimental
;368-400,378-391,425-706,447-669,479-554,513-527,524-537,647-652/Disulfide bonds: #stat
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73.9%;

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Pred. No. 4e-06;
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C;Accession: JC2333

R;Le Provost, F.; Nocart, M.; Guerin, G.; Martin, P.
Biochem. Biophys. Res. Commun. 203, 1324-1332, 1994

A;Title: Characterization of the goat lactoferrin cDNA: ass

A;Reference number: JC2323; MUID:94380047; PMID:8093048

A;Accession: JC2323

A;Molecule type: mRNA

A;Residues: 1-708 <LEP-
C;Superfamily: transferrin; transferrin repeat homology
C;Keywords: duplication; glycoprotein
P;359-696/Domain: transferrin repeat homology <TRH2>
F;252,300,387,495,564/Binding site: carbohydrate (Asn) (cov
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J. Biol. Chem. 266, 21880-21885, 1991
A;Title: Characterization of estrogen-responsive mouse lactoferrin promoter.
nnfn-rence number: A41205; MUID:92042099; PMID:1939212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        carbonic anhydrase II inhibitor (transferrin homolog) precursor - pig C;Species: Sus scrofa domestica (domestic pig) C;Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change 09-Jul-2004 C;Accession: I47228
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A;Title: Purification and characterization
A;Reference number: I47228; MUID:93099129;
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C;Superfamily: transferrin; transferrin repeat homology
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A; Residues: 1-704 < ROU>
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A; Residues: 1-15 <LIU>
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llarity 78.3%;
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Pred. No. 1.7e-05;
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Pred. No. 8.3e-06;
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2; Mismatches
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(covalent)

#status

predicted

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A; Molecule type: protein
A; Resldues: 480-582 < KIN>
R; Elleman, T.C.; Williams, J.
Biochem. J. 116, 515-532, 1970
A; Title: The amino acid sequences of cysteic
A; Reference number: A90246; MUID: 70141846; PM
                                                                                                                                                                                       A;Residues: 20-28, 'X',30-38, 'X',40-43,'S' < R;Kingston, I.B.; Williams, J. Biochem. J. 147, 463-472, 1975
A;Title: The amino acid sequence of a carbo A;Reference number: A90282; MUID:76039467; A;Accession: A90282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Molecule type: protein
A;Residues: 1-50;54-82; VV,84-92;102-146;162-168;170-228;241-283;289-333;338-344;350-351
R;Gentili, C.; Bianco, P.; Neri, M.; Malpeli, M.; Campanile, G.; Castagnola, P.; Cancedd
J. Cell Biol. 122, 703-712, 1993
A;Title: Cell proliferation, extracellular matrix mineralization, and ovotransferrin tra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: mRNA
A; Residues: 1-82,'V', 84-99,'I',101-153,'W',155-238,'LN',241-685,'N',687-705 <JE2>
A; Cross-references: EMBL:X02009
A; Note: the codons given for residues 132 (AAC) and 317 (UUC) are inconsistent wit R; Thibodeau, S.N.; Lee, D.C.; Palmiter, R.D.
J. Biol. Chem. 253, 3771-3774, 1978
A; Title: Identical precursors for serum transferrin and egg white conalbumin.
A; Reference number: A92229; MUID:78171533; PMID:649604
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C;Date: 24-Apr-1984 #sequence revision 30-Sep-1993 #text change 09-Jul-2004
C;Accession: A26845; A91115; A92229; A91116; A40674; B61573; A90282; S02476; A03262
R,Jeltsch, J.M.; Hen, R.; Maroteaux, L.; Garnier, J.M.; Chambon, P.
Nucleic Acids Res. 15, 7643-7645, 1987
A;Title: Sequence of the chicken ovotransferrin gene.
A;Reference number: A26845; MUID:88015626; PMID:3658709
A;Accession: A26845
                                                                                                                                                                                                                                                                                                                                                                                                     R;Chung, M.C.M.; Chan, S.L.; Shimizu, S.
Int. J. Biochem. 23, 609-616, 1991
A;Title: Purification of transferrins and lactoferrin using A;Reference number: A61573; MUID:91293379; PMID:2065820
A;Accession: B61573
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A; Residues: 1-23 < THI>
R; Williams, J.; Elleman, T.C.; Kingston, I.B.; Wilkins, A.G.;
Eur. J. Biochem. 122, 297-303, 1982
A; Title: The primary structure of hen ovotransferrin.
A; Reference number: A91116; MUID:82138852; PMID:6895872
A; Accession: A91116
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Eur. J. Biochem. 122, 291-295, 1982
A;Title: The complete nucleotide sequence of the chicken ovotransferrin mRNA.
A;Reference number: A91115, MUID:82138851; PMID:7060577
A;Accession: A91115
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A; Residues: 20-28, 'X', 30-38, 'X', 40-44 <GEN>
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Best Local Similarity
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Pred. No.
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      ic acid-containing PMID:4907959
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                                   peptides
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      R;Goodman, R.E.; Schanbacher, F.L.
Biochem. Biophys. Res. Commun. 180, 75-84, 1991
A;Title: Bovine lactoferrin mRNA: sequence, ana.
A;Reference number: JT0595; MUID:92028986; PMID
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A;Molecule type: mRNA
A;Residues: 1-144, 'V',146-163,'Pp',166-339,'A',341-438,'Y',440-513,'R',515-708 <PII>A;Residues: 1-184,'V',146-163,'Pp',166-339,'A',341-438,'Y',440-513,'R',515-708 <PII>A;Cross-references: EMBL:X57084; NID:g505; PIDN:CAAA0366.1; PID:g506
R;Pierce, A.; Colavizza, D.; Benaissa, M.; Maes, P.; Tartar, A.; Montreuil, J.; Spik
Eur. J. Biochem. 196, 177-184, 1991
A;Title: Molecular cloning and sequence analysis of bovine lactotransferrin.
A;Reference number: S14110; MUID:91160550; PMID:2001696
A;Accession: S14110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Contents: annotation; disulfide bonds R;Williams, J.; Moreton, K. Biochem. J. 251, 849-855, 1988 A;Title: The dimerization of half-molecule A;Reference number: S02476; MUID:88326225; A;Accession: S02476
A; Molecule type: protein A; Residues: 20-35;82-114
                                                                 A;Cross-references: EMBL:X57084
A;Accession: S18517
                                                                                                                                  A; Molecule type: mRNA
A; Residues: 3-144,'V',146-339,'A',341-438,'Y',440-513,'R',515-708
                                                                                                                                                                                                                                                                                                                                                                                                                                                          submitted to the EMBL Data Library, November 1990 A;Reference number: S14674 A;Accession: S14674
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A; Residues: 1-708 < TSA>
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A;Accession: I45919
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R;Tsang, T.C.; Burns, D.K.; V
FASEB J. 6, 233, 1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C;Species: Bos primigenius taurus (cattle)
C;Date: 31-Mar-1992 #sequence revision 21-Nov-1997 #text change 09-Jul-2004
C;Accession: 145919; S14674; S14110; S18517; JT0595; S13097; S18518; S13881;
R;Tsang, T.C.; Burns, D.K.; Wang, F.; Pan, Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F;492/Binding site: carbohydrate (Asn) (covalent) (partial) #stat F;507-521,518-532/Disulfide bonds: (or 507-518, 521-532) #status
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F;29-64,134-216,179-193,190-201,247-261,367-399,424-699,440-662,473-549,497-690/Disulfid
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C;Keywords: duplication; egg white; gjorotein; iron binding;
F;1-19/Domain: signal sequence #status experimental <SIG>
F;20-705/Product: transferrin #status experimental <MAT>
F;21-355/Domain: transferrin repeat homology <TRH1>
F;21-355/Domain: transferrin repeat homology <TRH1>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R; Pierce,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Cross-references: UNIPROT:P24627; GB:L08604; NID:g163269; PIDN:AAA30609.1; PID:g163270
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Best Local S
Matches 15
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Pred. No. 0.
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J.00047;
3;
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20-35;82-114;148-163,'PP',166-178,'V','P';183-190;205-212;230-239;304-339;59

analysis, PMID:17182

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A;Molecule type: protein
A;Molecule type: protein
A;Residues: 20-27,'X',29-37,'X',39-54,'X',56-59 <REJ>
A;Residues: 20-27,'X',29-37,'X',39-54,'X',56-59 <REJ>
A;Residues: 20-27,'X',29-37,'X',39-54,'X',56-59 <REJ>
R;Bellamy, W.; Takase, M.; Yamauchi, K.; Wakabayashi, H.; Kawase, K.; Tomita, M.
Biochim. Biophys. Acta 1121, 130-136, 1992
A;Title: Identification of the bactericidal domain of lactoferrin.
A;Reference number: S21756; MUID:92287941; pMID:1599934
A;Accession: S21756
A;Anolecule type: protein
A;Residues: 36-60 <BEL>
R;Shimazaki, K.; Tanaka, T.; Kon, H.; Oota, K.; Kawaguchi, A.; Maki, Y.; Sato, T.
Joalry Sci. 76, 946-955, 19-3
A;Title: Separation and characterization of the C-terminal half molecule of bovine
A;Reference number: A56659; MUID:93253136; pMID:8486845
A;Residues: 20-25;302-308;359-366,'X',368-376,'X',378 <SHI>A;Residues: 20-25;302-308;359-366,'X',368-376,'X',378 <SHI
C;Keywords: duplication; glycoprotein; iron, iron binding; metalloprotein; milk
F;10-708/Product: lactotransferrin #status experimental <MAT>
F:20-708/Product: lactotransferrin #status experimental <MAT>
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A;Cross-references: GB:M63502
A;Note: the authors translated the codon CCG for residue 66 R;Mead, P.E.; Tweedie, J.W.
Nucleic Acids Res. 18, 7167, 1990
A;Title: CDNA and protein sequence of bovine lactoferrin. A;Reference number: S13097; MUID:91088328; PMID:2263492
A;Accession: S13097
                                                                                                RESULT 14
S12100
transferrin precursor - African clawed frog
C;Species: Xenopus laevis (African clawed frog)
C;Date: 21-Nov-1993 #sequence_revision 10-Nov-1995
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F;28-64,134-217,176-192,179-200,189-202,250-264,367-399,377-390,424-703,444-666,476-551,F;38-554/Disulfide bonds: #status predicted
F;38-554/Disulfide bonds: #status predicted
F;79,111,211,272/Binding site: iron (Asp, Tyr, Tyr, His) #status experimental
F;140/Binding site: carbonate (Arg) #status experimental
F;252,300,387,495,564/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;414,452,545,614/Binding site: iron (Asp, Tyr, Tyr, His) #status experimental
F;482/Binding site: carbonate (Arg) #status experimental
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A;Residues: 28-38, 'p', 40-86,'C',88-708 <ME3>
A;Residues: 28-38, 'p', 40-86,'C',88-708 <ME3>
A;Crose-references: EMBL:X54801
R;Rejman, J.J.; Hegarty, H.M.; Hurley, W.L.
Comp. Biochem. Physiol. B 93, 929-934, 1989
A;Title: Purification and characterization of bovine lactoferrin from secretions of A;Reference number: PL0148; MUID:90031466; PMID:2805645
A;Accession: PL0148
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A;Reference number: S13881
A;Accession: S13881
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A; Residues: 28-33, 'DS', 36-38, 'P', 40-708 < MEA>
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Residues: 20-47;59-66;132-139;256-277;278,305-332;343-351;361-363;586,587-589;598-619
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Pred. No. 0.00047;
6; Mismatches 4
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Search completed: November Job time: 25.3382 secs

2005, 12:55:47

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transferrin - Atlantic salmon (Species: Salmo salar (Atlantic salmon) (C;Species: Salmo salar (Atlantic salmon) (C;Date: 16-Jul-1999 #sequence_revision 16-Jul-1999 #text_change 09-Jul-2004 (C;Accession: T11749  
R;Kvingedal, A.M.; Rorvik, K.A.; Alestrom, P. Rol. Marine Biol. Biotechnol. 2, 233-238, 1993 Mol. Marine Biol. Biotechnol. 2, 233-238, 1993 Mol. Marine Biol. Biotechnol. 2, 233-238, 1993 A;Title: Cloning and characterization of Atlantic salmon (Salmo salar) serum A;Reference number: Z17332; MUID:94122797; PMID:8293074 A;Accession: T11749
                                                                                                                                                                                                                                                             A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-690 <KVI>
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R;Moskaitis, J.E.; Pastori, R.L.; Schoenberg, D.R.
Nucleic Acids Res. 18, 6135, 1990
A;Title: The nucleotide sequence of Xenopus laevis transferrin
A;Reference number: S12100; MUID:91045087; PMID:2235503
A;Accession: S12100
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                                                                                                                                                                            C; Superfamily: transferr C; Keywords: iron binding
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RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RX Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L.H., Schaefer C.F., Bhat N.K.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Altschenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Frange C.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Frange C.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Frange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gylbs R.A.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA Rahesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Waess R.M.,
Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
"Generation and initial analysis of more than 15,000 full-length human
RT and mouse cDNA sermences."
                   MEDLINE_B7192006; PubMed=3106157; DOI=10.1016/0378-1119(86)90277-5; Adrian G.S., Korinek B.W., Bowman B.H., Yang F.; "The human transferrin gene: 5' region contains conserved sequences which match the control elements regulated by heavy metals, glucocorticoids and acute phase reaction."; Gene 49:167-175(1986).
SEQUENCE
                                                                                                                                                                                                                    MEDLINE=87066744; PubMed=3786138;
Lucero M.A., Schaeffer E., Cohen G.N.
"The 5' region of the human transferr
regulatory sites.";
Nucleic Acids Res. 14:8692-8692(1986)
                                                                                                                                                                                                                                                                                                                                                                                    originated by Proc. Natl. A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=83160878; PubMed=6833213;
McGillivray R.T.A., Mendez E., Shewale J.G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            seven cyanogen
structure.";
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Zhang C., Yu
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                                                                                                                                                                                                                                                                                                                                                                                                                            "Organization of the human transferrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Zakin M.M.
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seven cyanogen bromide
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c. Natl. Acad. Sci. U.S.A.
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MEDLINE-98272665; PubMed-9609685; DOI=10.1021/b1980355]; Macgillivray R.T.A., Moore S.A., Chen J., Anderson B.F., Luo Y., Bewley M.C., Smith C.A., Murphy M.E.P., Wang Y., Woodworth R.C., Brayer G.D., Baker E.N.; "Two high-resolution crystal structures of the recombinan human transferrin reveal a structural change implicated i release.";
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DOI=10.1002/1097-4547(2000081516:14<388::AID-JNR5>3.0.CO;2-C
DOI=10.1002/1097-4547(2000081616:14<388::AID-JNR5>3.0.CO;2-C
de Arriba Zerpa G.A., Saleh M.-C., Fernandez P.M., Guillou E
Bepinosa de los Monteros A., de Vellis J., Zakin M.M., Baror
"Alternative splicing prevents transferrin secretion during
differentiation of a human oligodendrocyte cell line.";
J. Neurosci. Res. 61:388-395(2000).
                                                                                                                                                                                                                                                                                                                                                                        Woodworth R.C., Mason A.B., Funk W.D., McGillivray R.T.A.; "Expression and initial characterization of five site-directed of the N-terminal half-molecule of human transferrin.";
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MEDLINE-99155227; PubMed=10029548; DOI=10.1021/bi9824543;
Bewley M.C., Tam B.M., Grewal J., He S., Shewry S., Murph
Mason A.B., Woodworth R.C., Baker E.N., Macgillivray R.T.
                                                                                                                                              X-RAY CRYSTALLOGRAPHY (2.2 ANGSTROMS) OF 22-350.
MEDLINE=98434369; PubMed=9760232; DOI=10.1021/bi9812064;
Jeffrey P.D., Bewley M.C., Macgillivray R.T.A., Mason A.B
                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=82222166; PubMed=6953407;
MCGILIVRAY R.T.A., Mendez E., Sinha S.K.,
Lineback-Zins J., Brew K.;
"The complete amino acid sequence of human
Proc. Natl. Acad. Sci. U.S.A. 79:2504-2508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kovalyov L.I., Shishkin S.S., Efimochk Ershova E.S., Egorov T.A., Musalyamov "The major protein expression profile database of human heart.";
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"Human transferrin (Tf): a single mutation at codon 570 determines Tf
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=97418135;
                                                                         Biochemistry
                                                                                                   Jeffrey P.D., Bewley M.C., Macy
Moodworth R.C., Baker E.N.;
"Ligand-induced conformational
structure of the open form of t
                                                                                                                                                                                                         Biochemistry 37:7919-7928(1998).
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                                           (-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS) OF
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a F., Imagawa M.,
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GO; GO:0005576; C:extracellular; IEA.
GO; GO:00068199; F:ferric iron binding; IEA.
GO; GO:0006879; P:iron ion homeostasis; IEA.
GO; GO:0006826; P:iron ion transport; IEA.
GO; GO:0006810; P:transport; IEA.
InterPro, IPR001156; Peptidase_S60.
Pfam; PP00405; Transferrin; 2.
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P19134; O46514;
01-NOV-1990 (Rel
                Oryctolagus
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01-0CT-2003
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Name=TF;
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Submitted (ARR-2003) to the EMBL/GenBank/DDBJ database
-!-FUNCTION: Transferrins are iron binding transport
bind ferric iron in association with the binding c
usually bicarbonate (By similarity).
-!-DOMAIN: Composed of two homologous domains (By sim
-!-SIMILARITY: Belongs to the transferrin family.
EMBL, AY288100; AAP37129.1; -.
                                                                         SMART; SM00094; TR_FER; 2.

PROSITE; PS00205; TRANSFERRIN_2; 2.

PROSITE; PS00206; TRANSFERRIN_3; 2.

PROSITE; PS00207; TRANSFERRIN_3; 2.

Iron transport; Metal-binding; Trans

SEQUENCE 694 AA; 76466 MW; 4005;
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Transferrin.
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                  ; Metazoa;
Eutheria;
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                                         cuniculus
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                                                                                                                                          STANDARD;
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                            us (Rabbit)
Chordata;
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Rodentia;
                  Lagomorpha;
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95.7%;
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Pred. No. 3.3e
0; Mismatches
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Craniata; Vercenteria
ma; Leporidae; Oryctolagus
                                                                                                                                                                                                                                                                    Pred.
                                                                                                                                                                                                                                                                             Score 103;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Craniata; Vertebrata; Euteleostomi; Sciurognathi; Sciuridae; Sciurinae;
                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                      Transport.
40053F7DC1CFCA87 CRC64;
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n) (Siderophilin)
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                              Euteleostomi;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Cloning and stuctural organisation gene.";
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Banfield D.K., Chow B.K.-C., Funk W.D., Robertson K.A
Woodworth R.C., Macgillivray R.T.A.;
"The nucleotide sequence of rabbit liver transferrin
                                                                                                                            entities
                                                                                                                                                                                                                                                                                                                                                                                X-RAY CRYSTALLOGRAPHY (2.3 ANGSTROMS).
Sarra R., Garratt R.C., Gorinsky B., Jhoti H., Lindley P.F.;
"High-resolution X-ray studies on rabbit serum transferrin:
preliminary structure analysis of the N-terminal half-molecu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE=Plasma;
MEDLINE=89026775; PubMed=3179277;
MEDLINE=89026775; PubMed=3179277;
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Ghareeb B.A.A., Thepot D.,
                                                                                                                                                                                                                                                                                                                                                       Acta Crystallogr. B 46:763-771(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Evans R.W.,
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[1]
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WEDLINE=89005676; PubMed=3169252; DOI=10.1016/0014-5793(88)80221-7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rabbit transferrin."
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                                                                                                                 gend
                                                                                                                                                                                                          SUBUNIT: Monomer.
SUBCELLULAR LOCATION: Secreted.
TISSUE SPECIFICITY: Expressed by the liver and DOMAIN: Composed of two homologous domains.
SIMILARITY: Belongs to the transferrin family.
                                                                                                                                                                                                                                                                                                                 FUNCTION: Transferrins are iron binding transport proteins can bind two atoms of ferric iron in association with the of an anion, usually bicarbonate. It is responsible for the
                                                                                                                                                                                                                                                                             those of storage and utilization. Serum transferrin a further role in stimulating cell proliferation.
                                                                                                                                                                                                                                                                                                    of an anion, usually bicarbonate. It is restransport of iron from sites of absorption
                          ; AF031625; AAB94136.1; J
AF031611; AAB94136.1; J
; AF031612; AAB94136.1; J
; AF031613; AAB94136.1; J
; AF031614; AAB94136.1; J
                                                                                          X58533; CAA41424.1;
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                                                                                                                 equires a license agreement (S email to license@isb-sib.ch).
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PROSITE; PSOUZU,;

Metal-binding; Repeat;
SIGNAL 19
CHAIN 20 695
REPEAT 20 695
REPEAT 356 69;
DISULFID 38 6
DISULFID 38 6
DISULFID 38 6
DISULFID 364
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EMBL; AF031617; AAB94136.1; JOINED.

EMBL; AF031619; AAB94136.1; JOINED.

EMBL; AF031619; AAB94136.1; JOINED.

EMBL; AF031620; AAB94136.1; JOINED.

EMBL; AF031621; AAB94136.1; JOINED.

EMBL; AF031622; AAB94136.1; JOINED.

EMBL; AF031622; AAB94136.1; JOINED.

EMBL; AF031623; AAB94136.1; JOINED.

EMBL; AF031624; AAB94136.1; JOINED.

EMBL; AF031624; AAB94136.1; JOINED.

EMBL; AF031627; AAB94136.1; JOINED.

EMBL; AF031627; AAB94136.1; JOINED.

EMBL; AF031627; AAB94136.1; JOINED.

PDB; 1JNF; X-ray; A=20-695.

PDB; 1JNF; X-ray; A=
            \begin{array}{c} 66555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63555\\ 63
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                                                                                                                                 RESULT 4

TRPE_HORSE

ID TRPE_HORSE STANDARD;

AC 27425;

DT 01-AUG-1992 (Rel. 23, Created)

DT 05-JUL-2004 (Rel. 24, Last sequence update)

DF Serotransferrin precursor (Transferrin) (Siderophilin) (Be' binding globulin).

"" binding globulin).

"" (Horse).

"" (Horse).

"" "" (Faniata; Craniata; Equidae; Equus.
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Best Local S
Matches 20
  Equus caballus (Horse).

Equus caballus (Horse).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalla; Eutheria; Perissodactyla; Equidae; Equus.

NCBI_TaxID=9796;

[1]

SEQUENCE FROM N.A.

MEDLINE=93277958; PubMed=8504171; DOI=10.1016/0167-4781(93)90186-H;

Carpenter M.A., Broad T.E.;

"The cDNA sequence of horse transferrin.";

Biochim. Biophys. Acta 1173:230-232(1993).
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l Similarity 87.0%;
20; Conservative
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1; Mismatches
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8.2e-07;
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InterPro; IPR001156; Peptidase_S60.

Pfam; PF00405; Transferrin; 2.

PRINTS; PR00422; TRANSFERRIN.

SMART; SM00094; TR. FER; 2.

PROSITE; PS00205; TRANSFERRIN 1; 2.

PROSITE; PS00206; TRANSFERRIN 2; 2.

PROSITE; PS00206; TRANSFERRIN 3; 2.

PROSITE; PS00207; TRANSFERRIN 3; 2.
                                         DISULFII
METAL
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EMBL; U21127; AAA63684.1;
PIR; S33761; S33761.
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SEQUENCE FROM N.A.
TISSUE=Extraembryonic tissue;
McDowell K.J., Adams M.H., Ba
    BINDING
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                                         Carbonate 1 similarity)
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RESULT 5
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Best Local S
Matches 19
                                                                    EMBL; X12386; CAA30943.1; -.
PIR; S01384; S01384.
PDB; 1H76; X-ray; A=1-696.
InterPro; IPR001156; Peptidase_S60.
Pfam; PF00405; Transferrin; 2.
PRINTS; PR00425; TRANSFERRIN.
SWART; SM00094; TR FER; 2.
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P09571;
01-MAR-1989 (Rel.
01-FEB-1991 (Rel.
25-OCT-2004 (Rel.
Serotransferrin
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SEQUENCE
                                PRINTS; PR00422; TRANSFERRIN.
SMART; SM00094; TR PER; 2.
PROSITE; PS00205; TRANSFERRIN 1;
PROSITE; PS00206; TRANSFERRIN 2;
PROSITE; PS00207; TRANSFERRIN 3;
                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Entropean Bioinformatics Institute. There are no restu use by non-profit institutions as long as its content use by non-profit institutions are long as its content use by non-profit institutions as long.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Name=TF;
Sus scrofa (Pig).
Eukaryota; Metazoa;
                                                                                                                                                                          entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                               "Nucleotide sequence of porcine liver transferrin.";
Nucleic Acids Res. 16:8720-8720(1988)
-!- FUNCTION: Transferrins are iron binding transport proteins which can bind two atoms of ferric iron in association with the binding of an anion, usually bicarbonate. It is responsible for the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              globulin).
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                      3D-structure;
                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=88335629; PubMed=3419934; Baldwin G.S., Weinstock J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9823;
                                                                                                                                                                                                                                                                          SUBUNIT: Monomer.
SUBCELLULAR LOCATION: Secreted.
TISSUE SPECIFICITY: Expressed by the liver and DOMAIN: Composed of two homologous domains.
SIMILARITY: Belongs to the transferrin family.
                                                                                                                                                                                                                                                                                                                                          transport of iron from sites of absorption and heme those of storage and utilization. Serum transferrin a further role in stimulating cell proliferation.
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(Rel. 45, Last annotation update)
(rin (Transferrin) (Siderophilin)
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Pred. No. 5e-0
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N-linked (G
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                      transport;
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                      Metal-binding; Repeat;
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                                                                                                    RC STRAILE-CSTBL/GJ; TISSUB-Mammary gland;
RX MEDLINE-22354683; PubMed=12466851; DOI=10.1038/nature01266;
RA Okazaki Y., Furuno M., Kasukawa T., Adachi J., Bono H., Kondo S.,
RA Okazaki Y., Furuno M., Saito R., Suzuki H., Yamanaka I., Kiyosawa H.,
RA Nikaido I., Osato N., Saito R., Suzuki H., Yamanaka I., Kiyosawa H.,
RA Aygi K., Tomaru Y., Hasegawa Y., Nogami A., Schonbach C., Gojobori T.,
RA Baldarelli R., Hill D.P., Bult C., Hume D.A., Quackenbush J.,
RA Schrimil L.M., Kanapin A., Matsuda H., Batalov S., Beisel K.W.,
RA Schrimil L.M., Kanapin A., Matsuda H., Batalov S., Beisel K.W.,
RA Blake J.A., Bradt D., Brusic V., Chothia C., Corbani L.E., Cousins S.,
RA Gasaterland T., Gariboldi M., Gissi C., Godzik A., Gough J.,
RA Kanai A., Kawaji H., Kawasawa Y., Kedzierski R.M., King B.L.,
RA Konagaya A., Kurochkin I.V., Lee Y., Lenhard B., Lyons P.A.,
RA Konagaya A., Kurochkin I.V., Lee Y., Lenhard B., Lyons P.A.,
RA Maglott D.R., Maltais L., Marchionni L., McKenzie L., Miki H.,
RA Maglott D.R., Maltais L., Pontius J.U., Qi D., Ramachandran S.,
RA Ravasi T., Reed J.C., Reed D.J., Reid J., Ring B.Z., Ringwald M.,
RA Sandelin A., Schneider C., Semple C.A., Setou M., Shimada K.,
RA Sultana R., Takanaka Y., Taylor M.S., Teasdale R.D., Tomita M.,
RA Sultana R., Takanaka Y., Taylor M.S., Teasdale R.D., Tomita M.,
RA Yaun Z., Zavolan M., Zhu Y., Zimmer A., Carninci P., Hayatsu N.,
RA Yuna Z., Zavolan M., Zhu Y., Zimmer A., Carninci P., Hayatsu N.,
RA Hirozane-Kishikawa T., Konno H., Nakamura M., Sakazume N., Sato K.,
RA Mijazaki A., Sakai K., Sasaki D., Shibata K., Shinagawa I.,
RA Yasunishi A., Yoshino M., Waterston R., Lander E.S., Rogers J.,
RA Yasunishi A., Yoshino M., Waterston R., Lander E.S., Rogers J.,
RA Yasunishi A., Schaik K., Sasaki D., Shibata K., Shinagawa A.,
RA Yasunishi A., Schaik Y.;
RA Yasunishi A., Schaik Y.;
RA Yasunishi A., Schaik Y.;
RA Yasunishi A., Sakai K., Sasaki C., Shibata K., Shinagawa A.,
RA Yasunishi A., Schaik Y.;
RA Yasunishi A., Schaik Y.;
RA Yasunishi A., Schaik Y.;
RA Yasunishi A., Sch
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Best Local S
Matches 18
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MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899; Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G., Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                binding globulin).
Name=Tf; Synonyms=Trf;
Mus musculus (Mouse).
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28-FEB-2003 (Rel.
25-OCT-2004 (Rel.
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Q922C0;
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Mammalia; Eutheria; Rodentia;
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18; Conservative
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1. 41, Last sequence update)
1. 45, Last annotation update)
precursor (Transferrin) (Siderophilin)
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Pred. No.
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Sciurognathi; Muridae; Murinae; Mus.
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     Schuler G.D.
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., Gojobori T.,
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RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K., RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F., Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L., RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L., RA Brownstein M.J., Ugdin T.B., Toshiyuki S., Carninci P., Prange C., Ra Brownstein M.J., Ugdin T.B., Toshiyuki S., Carninci P., Prange C., Ra Brownstein M.J., Ugdin T.B., Toshiyuki S., Carninci P., Prange C., Ra Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J., Ra Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., Richards J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A., Rahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A., Rahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A., Rahey J., Helton E., Ketteman M., Green E.D., Dickson M.C., Rahesley R.W., Touchman J.W., Jones S.J.M., Marra M.A.;

"Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences."; Dance CDNA sequences."; Dance CDNA sequences.";
 EMBL;
EMBL;
                                                                   entities
or send a
                                                                                                                                                                                                                                                                                   "Transferrin mRNA level in the mouse mammary "Transferrin mRNA level in the mouse mammary";
                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboratic between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on it use by non-profit institutions as long as its content is in no was modified and this statement is not removed. Usage by and for commercia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Transferrin gene expression placenta during pregnancy in Placenta 14:365-371(1993).
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MEDLINE=88086992; Pul
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cells.";
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DOI=10.1002/(SICI)1098-2795(199807)50:3<273::AID-MRD3>3.3.CO;2-C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE OF
                                                                                                                                                                                                                                                                                                                                                                                                                            Pentecost B.T., Teng C.T.; "Lactotransferrin is the major
                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=87280033; PubMed=3611056;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Kasik J.W., Rice E.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=94068311; PubMed=8248032;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Biol.
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SUBUNIT: MONOMEY.
SUBCELLULAR LOCATION: Secreted.
TISSUE SPECIFICITY: Expressed by the
DOMAIN: Composed of two homologous do
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AF440692;
AK085754;
BC012313;
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                                                                   requires a license agreement (S
an email to license@isb-sib.ch).
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Chem. 262:17247-17250(1987)
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AAL34533.1;
BAC39532.1;
AAH12313.1;
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PubMed=3693348;
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EMBL; BC008559; AAH08559.1; -.
EMBL; BC008559; AAH08559.1; -.
EMBL; M23014; AAA40489.1; -.
EMBL; M23014; AAA40489.1; -.
EMBL; M23015; AAA40491.1; -.
EMBL; M23016; AAA40491.1; -.
EMBL; M23016; AAA40491.1; -.
EMBL; S67217; AAB28966.2; -.
EMBL; S67217; AAB28966.2; -.
EMBL; S67217; AAB28966.2; -.
EMBL; S67217; AAB28966.2; -.
EMBL; GO; CO:030139; C::endocytic vesicle; ID
InterPro; IPR001156; Peptidase_S60.
Pfam; PF00405; Transferrin; 2.
PRINTS; PR00422; TRANSFERRIN.
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PROSITE; PS00206; TRANSFERRIN_2; 2.
PROSITE; PS00207; TRANSFERRIN_3; 2.
Glycoprotein; Iron transport; Metal-binding;
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LT -> FA (in Ref. 1).
ISAS -> HASG (in Ref.
W -> L (in Ref. 6).
P -> L (in Ref. 6).
CP -> SA (in Ref. 7).
G -> C (in Ref. 5).
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01-NOV-1997 (Rel. 3
05-JUL-2004 (Rel. 4
Serotransferrin pro
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Q29443;
01-NOV-1997
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Name=TF;
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J. Biol. C
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                                                                                                                                                             SIGNAL
CHAIN
                                                                                                                                                                                                                   PRINTS; PR00422; TRANSFERRIN.
SMART; SM00094; TR EER; 2.
PROSITE; PS00205; TRANSFERRIN 2;
PROSITE; PS00206; TRANSFERRIN 2;
PROSITE; PS00207; TRANSFERRIN 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=96132861; PubMed=8557646; DOI=10.1074/jbc.271.2.1166; Retzer M.D., Kabani A., Button L.L., Yu R.H., Schryvers A.B.; "Production and characterization of chimeric transferrins for t determination of the binding domains for bacterial transferrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                       EMBL; U02564;
HSSP; P09571;
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                                                                                                                                                                                                       Glycoprotein;
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Pfam; PF00405; Transferrin; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FUNCTION: Transferrins are iron binding transport proteins which can bind two atoms of ferric iron in association with the binding of an anion, usually bicarbonate. It is responsible for the transport of iron from sites of absorption and heme degradation to those of storage and utilization. Serum transferrin may also have a further role in stimulating cell proliferation.

SUBCHIT: Monomer (By similarity).

SUBCELIULAR LOCATION: Secreted.

TISSUE SPECIFICITY: Expressed by the liver and secreted in plasma. DOMAIN: Composed of two homologous domains.

SIMILARITY: Belongs to the transferrin family.
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    1. 35, Last sequence update)
    1. 44, Last annotation update)
    precursor (Transferrin) (Siderophilin) (Beta-1-metal

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   By similarity.
Serotransferrin.
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 y similarity.
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P14632; Q29557;

01-APR-1990 (Rel. 14, Created)

15-DEC-1998 (Rel. 37, Last seque

15-JUL-2004 (Rel. 44, Last anno!
 SEQUENCE OF 20-49.

MEDLINE=90105538; PubMed=2605266;

Hutchens T.W., Magnuson J.S., Yip T.-T.;

"Rapid purification of porcine colostral whey lactoferrin by affice chromatography on single-stranded DNA-agarose. Characterization,
                                                                         SEQUENCE FROM N.A.

MEDIJINE=92367939; PubMed=1503259;

Alexander L.J., Levine W.B., Teng C.T., Beattie C.W.;

"Cloning and sequencing of the porcine lactoferrin cDNA.";

Anim. Genet. 23:251-256(1992).
                                                                                                                                                                             SEQUENCE FROM N.A.
MEDLINE=92379101; PubMed=1511016; DOI=10.1016/0167-4781(92)90061-4;
Lyndon J.P., O'Malley B.R., Saucedo O., Lee T., Headon D.R.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  80.0%;
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1132:97-99(1992).
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annotation update)
(Lactoferrin).
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     InterPro; IPRO01156; Peptidase_S60.
Pfam; PF00405; Transferrin; 2.
PRINTS; PR00427; TRANSFERRIN.
SMART; SM00094; TR FER; 2.
PROSITE; PS00205; TRANSFERRIN_1; 2.
PROSITE; PS00206; TRANSFERRIN_2; 2.
PROSITE; PS00207; TRANSFERRIN_3; 1.
Direct protein sequencing; Glycoprotein; Ir
Metal_binding; Repeat; Signal; Transport.
  CARBOHYD
CARBOHYD
CONFLICT
                                                                         BINDING
BINDING
                                                                                                                                               METAL
BINDING
BINDING
BINDING
                                                                                                                                                                                                                                                                                               SIGNAL
CHAIN
REPEAT
REPEAT
REPEAT
DISULFID
                                                                                                                                                                                              DISULFID
METAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         acid composition and N-terminal amino acid sequence.";
Biochim. Biophys. Acta 999:323-329(1989).

I- FUNCTION: Transferrins are iron binding transport proteins which can bind two atoms of ferric iron in association with the binding of an anion, usually bicarbonate.

I- SUBURNIT: Monomer.

I- SUBCELLULAR LOCATION: Secreted.

I- DOWAIN: Composed of two homologous domains.

I- SIMILARITY: Belongs to the transferrin family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entities
or send a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; M92089; AAA31102.1; -.
EMBL; M81327; AAA31059.1; -.
PIR; A45543; A45543.
HSSP; Q9TUMO; 1DTZ.
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an email to license@isb-sib.ch).
                                                                                                                        139
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Iron 1 (By similarity).
Iron 1 (By similarity).
Iron 1 (By similarity).
Iron 1 (By similarity).
Iron 2 (By similarity).
Carbonate 1 (Via amide 1 similarity).
Carbonate 2 (Via amide 1 similarity).
Carbonate 2 (By similarity).
Carbonate 2 (Via amide 1 similarity).
Carbonate 2 (Via amide 1 similarity).
N-linked (GlCNAC. . .)
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RESULT 8

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Query Match Best Local S Matches 18

Similarity

CARBOHYD SEQUENCE

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BINDING

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475 479 481

BINDING

Lyndon J.P., O Conneely O.M.;

Biochim.

Biophys.

Acta

"Nucleotide and primary

Eukaryota; Metazoa; Mammalia; Eutheria;

ecrofa (Pig).

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RESULT 10
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Matches 17
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Best Local S
Matches 17
                                                                                                                                                                                                                                                                                                                                                                                                            HSSP; P24627; INKX.

GO; GO:0005576; C:extracellular; IEA.
GO; GO:0005576; C:extracellular; IEA.
GO; GO:0008199; F:ferric iron binding; IEA.
GO; GO:0006879; P:iron ion homeostasis; IEA.
GO; GO:0006810; P:transport; IEA.
GO; GO:0006810; P:transport; IEA.
Pfam; PF00405; Transferrin; 2.
PRINTS; PR00422; TRANSFERRIN.
SWART; SW00094; TR PER; 2.
PROSITE; PS00205; TRANSFERRIN 1; 2.
PROSITE; PS00206; TRANSFERRIN 2; 2.
PROSITE; PS00206; TRANSFERRIN 3; 1.
Transport; Mertil-binding. Transport;
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CON
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE-Mammary gland;
Wang S.-R., Lin T.-Y., Weng C.-N.;
Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
-I- FUNCTION: Transferrins are iron binding transport proteins bind ferric iron in association with the binding of an anio usually bicarbonate (By similarity) ones ally bicarbonate (By similarity) domains: Composed of two homologous domains (By similarity).
-I- DOWAIN: Composed of two homologous domains (By similarity).
                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sus scrofa (Pig).
Eukaryota; Metazoa;
Mammalia; Eutheria;
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01-MAR-2002
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01-MAR-2004
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01-MAR-2002 (TrEMBLrel.
01-MAR-2004 (TrEMBLrel.
Lactoferrin (Fragment).
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                                                                                                              TTEDCIVQVLKGEADAMSLDGGF 413
                                                                                                                                               TTEDSIAKIMNGEADAMSLDGGF 23
                                                                                                                                                                                                                                                                                                                                              704 AA;
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Cetartiodactyla;
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D -> G (in Ref. 1).
Missing (in Ref. 2).
T -> I (in Ref. 1).
E -> Q (in Ref. 1).
D -> N (in Ref. 1).
D -> N (in Ref. 1).
V -> C (in Ref. 1).
V -> C (in Ref. 1).
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Pred. No.
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actyla; Suina; Suidae;
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Sus.
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RESULT 11
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Best Local S
Matches 17
C TISSUE-Mammary gland;

A Pecorini C., Fogher C., Baldi A.;

C Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.

C I- FUNCTION. Transferrins are iron binding transport prote bind ferric iron in association with the binding of an usually bicarbonate (By similarity).

C I- DOMAIN: Composed of two homologous domains (By similarity I. SIMILARITY: Belongs to the transferrin family.

C I- SIMILARITY: Belongs to the transferrin family.

R EMBL; AY306198; AAP70487.1; -.

R HSSP; P24627; INKX.

R GO; GO:0008199; F:ferric iron binding; IEA.

GO; GO:0008199; P:iron ion homeostasis; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Shinkai H., Morozumi T., Toki D., Muneta Y., Awata T., Ueni Submitted (JAN-2003) to the EMBL/GenBank/DDBJ databases.
C. -!- FUNCTION: Transferrins are iron binding transport prote bind ferric iron in association with the binding of an usually bicarbonate (By similarity).
C. -!- DOMAIN: Composed of two homologous domains (By similarity - SIMILARITY: Belongs to the transferrin family.
C. -!- SIMILARITY: Belongs to the transferrin family.
EMBL; AP006185; BAD08651.1; -.
R HSSP; Q29477; 1JW1.
R GO; GO:0005576; C:extracellular; IEA.
R GO; GO:0005879; P:ferric iron binding; IEA.
R GO; GO:0006879; P:iron ion homeostasis; IEA.
R GO; GO:0006879; P:iron ion transport; IEA.
R GO; GO:0006879; P:iron 
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O7YS20,
01-OCT-2003 (TrEMBLrel. 2
01-OCT-2003 (TrEMBLrel. 2
01-MAR-2004 (TrEMBLrel. 2
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Q6YT39;
05-JUL-2004
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05-JUL-2004
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SMART; SM00094; TR FER; 2.
PROSITE; PS00205; TRANSFERRIN_1;
PROSITE; PS00206; TRANSFERRIN_2;
PROSITE; PS00207; TRANSFERRIN_3;
TRANSFERRIN_3;
                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
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Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sus scrofa (Pig).
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Eukaryota, Metazoa,
Mammalia, Eutheria,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=9823;
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17; Conserv
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Cetartiodactyla; Suina; Suidae;
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73.9%;
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Last annotation updat
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10DFEA3C1366D5DA CRC64;
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Sus.
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RESULT 12 TRFE\_RAT

Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Rodentia; NCBI\_TaxID=10116;

Rattus norvegicus (Rat). binding globulin). ঠ

Matches Query Match Best Local

l Similarity 17; Conserv

Conservative

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80.0%; 73.9%;

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391

TTEDCIVQVLKGEADAMSLDGGF TTEDSIAKIMNGEADAMSLDGGF

413

23

SORRERE

GO; GO:0006826; P:iron ion transport; IEA.
GO; GO:0006810; P:transport; IEA.
InterPro; IPRO01156; Peptidase\_S60.
Pfam; PF00405; Transferrin; 2.
SMART; SM00094; Transferrin; 2.
SMART; SM00094; TREE; 2.
SMOSITE; PS00205; TRANSFERRIN\_2; 1.
PROSITE; PS00206; TRANSFERRIN\_3; 1.
PROSITE; PS00206; TRANSFERRIN\_3; 1.
IRON transport, Metal-binding; Transport.
Iron transport, Metal-binding; Transport.
SEQUENCE 704 AA; 77522 MW; AAC8E1767E56B

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SEQUENCE FROM N.A. (ISOFORM 1).

STRAIN-Wistar; TISSUB-Mammary gland;

MEDLINE=95234064; pubMed=7717992;

ESCRIVA H., Pierce A., Coddeville B., Gonzalez

Leger D., Wieruszeski J.M., Spik G., Pamblanco

"Rat mammary-gland transferrin: nucleotide sequ

analysis and glycan structure.";

Blochem. J. 307:47-55(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TRPE_RAT STANDARD; PRT; 698 AA.

P12346; Q63602; Q64628; Q64630;

01-OCT-1989 (Rel. 12, Created)

15-JUL-1999 (Rel. 38, Last sequence update)

25-JAN-2005 (Rel. 46, Last annotation update)

Serotransferrin precursor (Transferrin) (Siderophilin)
 SEQUENCE OF 20-47.

MEDLINE=80049855; PubMed=500689;

Mchreiber G., Dryburgh H., Millership A., Matsud Phillips J., Edwards K., Maggs J.;

"The synthesis and secretion of rat transferrin.
J. Biol. Chem. 254:12013-12019(1979).
                                                                                                                                                                                                                                                                                                Hosino A., Hisayasu S., Shimada T.;
"Complete sequence analysis of rat transferrin ar
transferrin but not lactoferrin in the digestive
Comp. Biochem. Physiol. 113B:491-497(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 92; DB 2; Le
Pred. No. 2.1e-05;
3; Mismatches 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Craniata; Vertebrata; | Sciurognathi; Muridae;
                                                                                                                                                                                                     122:960-965(1984)
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                                                                                                                                                                                                                             ber G.;
Escherichia coli containing
                                                                                                                                                                                                                                                                                                                                                      DOI=10.1016/0305-0491(95)02068-3;
                                                                                                          acid: molecular cloning
cells.";
                                         Matsuda Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                       веquence,
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; Murinae; Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                      phylogenetic
                                         Inglia
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    "Lung-derived growth factor that stimulates the growth of lung-transtasizing tumor cells: identification as transferrin.";

J. Cell. Biochem. 47:261-271(1991).

Cell. Biochem. 47:261-271(1991).

Cell. Biochem. 47:261-271(1991).

Cell. FUNCTION: Transferrins are iron binding transport proteins can bind two atoms of ferric iron in association with the bof an anion, usually bicarbonate. It is responsible for the cof an anion, usually bicarbonate. It is responsible for the transport of iron from sites of absorption and heme degradathose of storage and utilization. Serum transferrin may also a further role in stimulating cell proliferation.

Cell- SUBUNIT: Monomer.

Cell- SUBUNIT: Monomer.

Cell- SUBUNIT: Monomer.

Cell- SUBURITERNATIVE PRODUCTS:

Event-Alternative splicing: Named isoforms=2;
                                                                                                                                                                                                                                                                                                                                                                              EMBL; X77158; CAA54403.1; -
EMBL; D38380; BAA07458.1; -
EMBL; D38380; BAA042266.1; -
EMBL; M27966; AAA42267.1; -
EMBL; M27966; AAA42267.1; -
EMBL; S49163; S49163.
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SEQUENCE OF 20-30 AND 6
PubMed=3046665;
Purves L.R., Purves M.,
"Properties of the tran
mucosa.";
              DISULFID
                                                                                                                                                                                       Iron to
                                                                                                                                                                                                                                                                                                HSSP; P19134; 1TFD.
GlycoSuiteDB; P12346; -
InterPro; IPR001156; Peptidase_S60.
Pfam; P700405; Transferrin; 2.
PRINTS; PR00422; TRANSFERRIN.
SMART; SM00094; TR_FER; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              use by non-profit institutions as long as modified and this statement is not removed. U entities requires a license agreement (See htt or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                           SMART; SM00094; TR_FER; 2.

PROSITE; PS00205; TRANSFERRIN 1;

PROSITE; PS00206; TRANSFERRIN 3;

PROSITE; PS00207; TRANSFERRIN 3;

Alternative splicing; Direct prot
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    s SWISS-PROT entry is copyright. It is produced through ween the Swiss Institute of Bioinformatics and the EN European Bioinformatics Institute. There are no rest
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IsoId=P12346-2; Sequence=VSP_011840; TISSUE SPECIFICITY: Expressed by the liver and DOMAIN: Composed of two homologous domains. SIMILARITY: Belongs to the transferrin family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Name=2
                                                                                                                                                                                                                                  transport,
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  transferrin
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                                                                                                                                                                                                                               -binding;
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associated
similarity
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;; Signal; Transport.
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(See http://www.isb-sib.
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SEQUENCE FROM ..... SEQUENCE FROM STRAIN-Wistar; TISSUE-Liver; MEDLINE-96208933; PubMeda-829802; DOMESTING STRAIN S., Shimada T.;

SEQUENCE FROM N.A. STRAIN=Wistar; TISS

(ISOFORM 1).

SEQUENCE OF 521-698 FROM N.A.
MEDLINE=87053639; PubMed=3023031;
Huggenvik J.I., Idzerda R.L., Haywood
Griswold M.D.;
"Transferrin messenger ribonucleic ac
hormonal regulation in rat Sertoli ce
Endocrinology 120:332-340(1987).

Haywood

. Lee SEQUENCE OF 7-295 FROM N.A. (ISOFORM MEDLINE-84307580; PubMed=6236811; Aldred A.R., Howlett G.J., Schreiber "Synthesis of rat transferrin in Esch "ecombinant bacteriophage.";

2).

Biophys. Res.

Commun.

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Best Local S
Matches 18
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Q7TNX0;
01-OCT-2003
01-OCT-2003
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CONFLICT
CONFLICT
SEQUENCE
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-I- FUNCTION: Transferrins are iron binding transport proteins bind ferric iron in association with the binding of an anic usually bicarbonate (By similarity).
-I- DOMAIN: Composed of two homologous domains (By similarity).
-I- SIMILARITY: Belongs to the transferrin family.
EMBL; AY327504; AAP97736.1; -
HSSP; P02787; 1BP5.
GO; GO:0005576; C:extracellular; IEA.
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CONFLICT
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BINDING
BINDING
                                                                                                                                                                 SEQUENCE FROM N.A.

XU C.S., Li W.Q., Li Y.C., Han H.P., Wang G.P., Chai L.C.

Xu C.S., Yan H.M., Chang C.F., Zhao L.F., Ma H., Wang Yang K.J., Yan H.M., Chang C.F., Zhang J.B.;

Submitted (JUN-2003) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BINDING
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                01-OCT-2003 (TrEMBLrel. 25,
01-OCT-2003 (TrEMBLrel. 25,
01-MAR-2004 (TrEMBLrel. 26,
Liver regeneration related p
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S -> G (in Ref. 1).
E -> D (in Ref. 4).
HK -> TA (in Ref. 4).
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Sciurognathi; Muridae; Murinae; Rattus.
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Best Local Similarity 81.8%;
Matches 18; Conservative
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R GO; GO:0006879; P:iron ion homeostasis; IEA.
R GO; GO:0006826; P:iron ion transport; IEA.
R GO; GO:0006810; P:transport; IEA.
R InterPro; IPR001156; Peptidase_S60.
PFAR; PF00405; Transferrin; 2.
R SMART; SM00094; TR PER; 2.
R PROSITE; PS00205; TRANSFERRIN_1; 1.
R PROSITE; PS00205; TRANSFERRIN_2; 2.
R PROSITE; PS00206; TRANSFERRIN_3; 2.
R PROSITE; PS00207; TRANSFERRIN_3; 2.
R PROSITE; PS00206; TRANSFERRIN_3; 2.
TISSUE=Mammary gland;
Cheng H., Chen X., Huan L.;
"cDNA cloning and sequence analysis of human lactoferrin.";
Submitted (DEC-2000) to the EMBL/GenBank/DDBJ databases.
[7]
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                                                                                                                                                                        TISSUE=Bone marrow;
Wei X., Han J., Rado T.A.;
"Human neutrophil lactoferrin coding and meanmences.";
                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A. Conneely O.M.; Submitted (MAY-199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE-Mammary gland;

MEDLINE=90384839; PubMed=2402455;

Rey M.W., Woloshuk S.L., de Boer H.A.,

"Complete nucleotide sequence of human

Nucleic Acids Res. 18:5288-5288(1990).
                                                                                                                                                                                                                                                                                                      TISSUE=Mammary gland;
Liang Q., Jimenez-Flores R., Richardson T.;
Liang Q., Jimenez-Flores R., Richardson T.;
"Molecular cloning and sequence analysis of human lactoferrin.";
Submitted (DEC-1991) to the EMBL/GenBank/DDBJ databases.
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Mammalia; Eutheria;
                                                                                                                                                      Submitted
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM
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Primates;
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erroxin C].
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y gland lactoferrin.";
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RP SEQUENCE FROM N.A.

RC TISSUB-Prostate;

RX MEDLINE-2238257; PubMed=12477932; DOI=10.1073/pnas.242603899;

RX MEDLINE-2238257; PubMed=12.10.

RX Klausner R.D., Collins F.S., Wesher T.D., Scheetz G.D., Altichenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RX Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RX Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RX Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RX Hopkins R.F., Jordan H., Moore T., Casavant T.L., Scheetz T.E.,

RX Hopkins R.F., Jordan H., Moore T., Casavant T.L., Scheetz T.E.,

RX Hopkins R.F., Jordan H., Moore G.J., Abramson R.D., Mullahy S.J.,

RX RA Hithing M., McCarnan K.J., Malek J.A., Gaynaratne P.H.,

RX Hithing M., Madan A., Young A.C., Shevohenko Y., Bouffard G.G.,

RX RA Hithing M., Madan A., Young A.C., Shevohenko Y., Bouffard G.G.,

RX RA Hithing M., Madan A., Young A.C., Shevohenko Y., Bouffard G.G.,

RX RA Hithing M., Madan A., Schein J.E., Jones S.J.M., Marra M.A.;

"Generation and initial analysis of more than 15,000 full-length human

"Generation and initial analysis of more than 15,000 full-length human
                                                                                       Metz-Boutigue M.-H.,
Jolles P.,
"The present state of the cya
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                                                                                                                                                                                                                                 MEDLINE-85076667; PubMed-6510420; Metz-Boutigue M.-H., Jolles J., Mazurier J., Legrand D., Spik G., Montreuil J., Jolles P.; "Human lactotransferrin: amino acid sequence comparisons with other transferrins."; Eur. J. Blochem. 145:659-666(1984).
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Kaplan J.
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Shi Y.-Q., Zhang Y.,
Submitted (OCT-2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE=Mammary gland;
MEDLINE=90326549; PubMed=2374734;
Powell M.J., Ogden J.E.;
"Nucleotide sequence of human lac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE=Seminal vesicle;
SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE OF 20-711.
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PubMed=6794640; DOI=10.
H., Mazurier J., Jolles
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18:4013-4013(1990).
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0.1016/0005-2795(81)90016-7;
s J., Spik G., Montreuil J.,
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X-RAY CRYSTALLOGRAPHY (2.0 ANGSTROMS)
MEDLINE=99192677; PubMed=10089508; DO
Jameson G.B., Anderson B F
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Anderson B.F., Baker H.M., Norris G.E
"Structure of human lactoferrin: crys
and refinement at 2.8-A resolution.";
J. Mol. Biol. 209:711-734(1989).
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MEDLINE=91166929; PubMed=1369293;
Tani F., Iio K., Chiba H., Yoshikawa
"Isolation and characterization of operation of the control of t
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PubMed=1269369; DOI=10.103/A:1022657630698;
Viejo-Diaz M., Andres M.T., Perez-Gil J., Sanchez
"Potassium efflux induced by a new lactoferrin-der
mimicking the effect of native human lactoferrin c
cytoplasmic membrane.";
Biokhimiia 68:217-227(2003).
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MEDLLNE=99190892; PubMed=10089347; DDI-10.11
Sun X.L., Baker H.M., Shewry S.C., Jameson (
"Structure of recombinant human lactoferrin
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0:989-993(1987).
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PubMed=10089508; DOI=10.1107/S0907444998004417; erson B.F., Norris G.E., Thomas D.H., Baker E.N. an apolactoferrin at 2.0-A resolution. Refinemen
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PubMed=9003186; DOI=10.1021/bi961908y;
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Jameson G.B., Baker E.N.;
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R GO; GO:0008199; F:ferric iron binding; IEA.

R GO; GO:0008899; P:iron ion homeostasis; IEA.

R GO; GO:0006896; P:iron ion transport; IEA.

R GO; GO:0006810; P:transport; IEA.

R GO; GO:0006810; P:transport; IEA.

R InterPro; IPR001156; Peptidase_S60.

Pfam; PF00405; Transferrin; 2.

R PART; SM00094; TR FER; 2.

R SMART; SM00094; TR FER; 2.

R PROSITE; PS00205; TRANSFERRIN_1; 1.

PROSITE; PS00205; TRANSFERRIN_3; 2.

R PROSITE; PS00207; TRANSFERRIN_3; 2.
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Acta Crystallogr. D 54:1319-1335(1998).
[25]
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XU C.S., Li W.Q., Li Y.C., Chang C.F., Zhao L.F., Ma H., WE WANG S.F., Han H.P., Wang G.P., Chai L.Q., Yuan J.Y., Yang Wang S.F., Han H.P., Wang G.P., Wang Q.N., Zhang J.B.; Yan H.M., Shi J.B., Rahman S., Wang Q.N., Zhang J.B.; Submitted (JUN-2003) to the EMBL/GenBank/DDBJ databases.
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Mammalia; Eutheria;
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3; Mismatches
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Sciurognathi; Muridae; Murinae; Rattus.
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## SUMMARIES

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ALIGNMENTS

RESULT 1 ADG46076 05-JUL-2002; 2002DE-01030550 19-MAY-2003; 2003EP-00011334 EP1378521-A1. antibody; carbohydrate-deficient transferrin; CDT; non-glycosylated transferrin; alcoholism; alcoholic; Human CDT peptide fragment #2. 25-MAR-2004 ADG46076 standard; peptide; 07-JAN-2004. Homo sapiens ADG46076; (DADE-) DADE BEHRING MARBURG GMBH (first entry) 23 ₿ diagnosis; human.

Althaus H;

WPI; 2004-073743/08.

New antibody specific for carbohydrate-deficient transferrin, useful for diagnosis of alcoholism, can bind its target in solution, eliminating need for immobilization.

Claim 4; SEQ ID NO 2; 21pp; German.

This invention describes a novel antibody that, in aqueous solution, binds selectively to carbohydrate-deficient transferrin (CDT) without having to bind CDT to a solid phase. The invention also describes an antibody that binds selectively to CDT at regions containing the sequences VVARSMGGKEDLIWELL, TTEDSIAKIMNGEADAMSLDGGF, SKLSMGSGLNLSEPN and YEKYLGESYVKAV (ADG46075-ADG46078) and an immunoassay for detecting CDT using the antibodies of the invention. The antibodies of the invention are monoclonal, specifically from hybridomas DSM ACC2540 or 2541. The antibodies are obtained by immunisation with non-glycosylated transferrin, or a fragment, then generation of hybridomas by standard fusion of spleen and myeloma cells. Hybridomas are then selected for production of antibodies that specifically bind CDT from the aqueous phase. The antibodies are useful for diagnosis of alcoholism, CDT, which

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RESULT 2
ABP74737
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The present invention describes a method (M1) for the isolation of a subset of peptides from a protein peptide mixture (P1). M1 involves: (a) separating the protein peptide mixture into fractions of peptides via chromatography; (b) chemically, or enzymatically, or chemically and enzymatically, altering at least one amino acid of at least one of the peptides; and (c) isolating the altered (flagged) peptides out of each fraction, thereby generating a subset of altered peptides; and (c) isolating the altered (flagged) peptides out of each fraction via chromatography, where the chromatography of steps (a) and (c) is performed with the same type of chromatography. M1 can be used for the isolation and determination of peptides from protein peptide mixtures. M1 can also be used in diagnostic assays for detection of the protein marker or a specific set of proteins indicative of a disease state. M1 can be used for identifying target proteins present in marker or a specific set of proteins indicative of a disease in transgenic mice, identification of proteins that are upregulated or down regulated in disease tissues, in identification of intracellular
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12-SEP-2001; 2001US-0318749P.
20-SEP-2001; 2001US-032399P.
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                                        The present invention describes an assay for a protein having at least two isoforms with different glycosylation patterns. The assay involves contacting a sample containing the protein with a proteolytic enzyme, followed by detecting the content or relative content of at least one peptide fragment produced by proteolysis. Also described is a kit for the assay method comprising the proteolytic enzyme and a substrate bound specific binding partner (S1) for at least 2 of the isoforms of the proteins. The method can be used for assaying isoforms of proteins according to their glycosylation pattern to determine their concentration or relative concentration in the sample or material (e.g. blood). The method avoids use of antibodies for distinguishing between glycosylated isoforms of the proteins. The present sequence represents a transferrin peptide fragment which is used in the exemplification of the present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            changes in cells with physiological changes such as metabolic shift, in the identification of biomarkers in cancers and in the identification of signalling pathways. The method is gel-free methodology for qualitative and quantitative proteome analysis without the need for multidimensional chromatography and without the use of affinity tags. ABP74714 to ABP75190 represent peptide sequences used in the exemplification of the present
                                                                                                                                                                                                                                                                                                                                  Assay for differentiating protein isoforms to determine their concentrations in sample e.g. blood, involves contacting the sample with proteolytic enzyme to produce peptide fragment by proteolysis followed by
                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2004-625547/60.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           glycosylation; proteolytic enzyme; proteolysis; detection; transferrin.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 21
                                                                                                                                                                                                                                                                                    Disclosure; Page 17; 30pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         06-FEB-2003; 2003GB-00002740.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        06-FEB-2004;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADR15960 standard;
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0; Mismatches
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Query Match Best Local Similarity

67.0%; 100.0%;

Score Pred.

77; No.

DB 8; L

Length

Sequence 21 AA;

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RESULT 5
ADG46093
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                                                                                                                                                                                                                                                                                                                                                                               Assay for differentiating protein isoforms to determine their concentrations in sample e.g. blood, involves contacting the sample with proteolytic enzyme to produce peptide fragment by proteolysis followed by
 ADG46093;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        glycosylation; proteolytic enzyme; proteolysis; detection; transferrin.
                    ADG46093 standard; peptide; 13
                                                                                                                                                              Sequence 21
                                                                                                                                                                                                                                                                                                                                                     Disclosure;
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                                                                                             IMNGEADAMSLDGGF 23
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                                                                                                                    Conservative
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                                                                                                                  67.0%; Score 77;
100.0%; Pred. No.
Live 0; Mismatch
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Best Local
Anticoagulant; Draculin; saliva; vampire bat; inhibition; factor IX; factor X; blood coagulation cascade; serine protease inhibitor; PMFS.
                                Draculin peptide #35.
                                                                                                                                                                                                                                                    Sequence 13 AA;
                                                     25-MAR-2003
15-NOV-1995
                                                                                    AAR71072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2004-073743/08
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                                                                                                                                                                                  11 NGEADAMSIDGGF 23
                                                                                                                                                                                                         13;
                                                                                                                                                                                                                    Similarity
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                                                                                                                                                              NGEADAMSLDGGF 13
                                                                                                                                                                                                         Conservative
                                                   (revised)
(first entry)
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CC binds selectively to carbohydrate-deficient transferrin (CDT) without CC having to bind CDT to a solid phase. The invention also describes an CC antibody that binds selectively to CDT at regions containing the CC sequences VVARSMGGKEDIIWELL, TTEDSIAKIMNGEADAMSLDGGF, SKLSMGSGLAUSEPN and CC YEKYLGEEYVKAV (ADG46075-ADG46078) and an immunoassay for detecting CDT CC using the antibodies of the invention. The antibodies of the invention are monoclonal, specifically from hybridomas DSM ACC2540 or 2541. The CC antibodies are obtained by immunisation with non-glycosylated CC transferrin, or a fragment, then generation of hybridomas by standard CC fusion of spleen and myeloma cells. Hybridomas are then selected for CC production of antibodies that specifically bind CDT from the aqueous CC phase. The antibodies that specifically bind CDT from the aqueous CC phase. The antibodies are useful for diagnosis of alcoholism, CDT, which CC lacks glycosylation at Asn413 and/or Asn 611, is present only in CC alcoholics. The antibodies allow direct detection of CDT in solution, CC eliminating the need for immobilising it on a solid phase (as required CC when using known antibodies). ADG46075-ADG46094 represent CDT peptide CC fragments used in the method of the invention.
AAR71072 standard; peptide; 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New antibody specific for carbohydrate-deficient transferrin, useful for diagnosis of alcoholism, can bind its target in solution, eliminating need for immobilization.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This invention describes a novel antibody that, in aqueous solution,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 7; Page 15; 21pp; German.
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non-glycosylated transferrin; alcoholism; alcoholi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BEHRING MARBURG GMBH
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100.0%; F1
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                                                                                                                                                                                                                                                                                                                                                                                          Score 68; pred. No.
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o. 0.00069;
0;
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ID ADG4
XX ADG4
AC ADG4
XX 25-N
XX 25-N
XX ant
XX ant
XX non
XX Hom
XX Hom
XX FF
PR 05-
PR 05-
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Best Local S
Matches 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The sequences given in AAR71038-84 represent peptide fragments derived from the anticoagulant protein, Draculin Praculin is isolated from the saliva of vampire bats and is distinct from other known anticoagulants in that it inhibits both factors IX and X of the blood coagulation cascade. The anticoagulant activity is not inhibited by serine protease inhibitors such as PMFS or DFP. The molecular weight of Draculin ranges from 75-90 kD and may be used in treatment of acute myocardial infarction, deep vein thrombosis, pulmonary embolism, unstable angina, transient ischemic attacks, peripheral vascular or bypass occlusions and disseminated intravascular coagluation. These peptide fragments were derived from Draculin by cleavage with chymotrypsin and overlapping peptide fragments were compared to determine the complete amino acid sequence of Draculin. (Updated on 25-WAR-2003 to correct PN field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             acute myocardial infarction; deep vein thrombosis; pulmonary embolism; unstable angina; transient ischemic attack; peripheral vascular; DFP; bypass occlusion; disseminated intravascular coagluation.
   05-JUL-2002; 2002DE-01030550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New anticoagulant protein, draculin, from vampire bat saliva - and related nucleic acid, vectors, transformed cells and probes, for tumpocardial infarction, etc.
                                  19-MAY-2003; 2003EP-00011334.
                                                                   07-JAN-2004
                                                                                                 EP1378521-A1
                                                                                                                                                                                                                 Human CDT peptide fragment #18.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1995-106668/14.
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                                                                                                                                Homo sapiens
                                                                                                                                                            antibody; carbohydrate-deficient transferrin; CDT;
non-glycosylated transferrin; alcoholism; alcoholic; diagnosis;
                                                                                                                                                                                                                                                  25-MAR-2004
                                                                                                                                                                                                                                                                                                                ADG46092 standard; peptide; 13 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 22-AUG-1994;
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                                                                                                                                                                                                                                                (first entry)
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Pred. No. 0.0016;
2; Mismatches 1; Indels
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RESULT 8
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ID 46090
ID 46090
ID 46090
AC ADG4
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XX Huma
XX Huma
XX ADG4
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Best Local Similarity
Matches 13; Conserv
                                                                WPI; 2004-073743/08.
                                                                                                                                                                                                                                                               05-JUL-2002; 2002DE-01030550
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     antibody; carbohydrate-deficient transferrin; CDT;
non-glycosylated transferrin; alcoholism; alcoholic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human CDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADG46090 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 13 AA;
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                                                                                                                                 Althaus H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25-MAR-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 7; Page 15; 21pp; German
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2004-073743/08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    fragments used in the method of the invention.
                                                                                                                                                                                                  (DADE-) DADE BEHRING MARBURG GMBH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (DADE-) DADE BEHRING MARBURG GMBH
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IMNGEADAMSLDG 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        peptide fragment #16.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       56.5%; Score 65; DB 8; 100.0%; Pred. No. 0.0021;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         diagnosis; human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         <u>..</u>
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antibody specific for carbohydrate-deficient transferrin,

for

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ARESULT 9
ADG46091
ID ADG4091
AC ADG4
XX ADG7

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Best Local &
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This invention describes a novel antibody that, in aqueous solution, binds selectively to carbohydrate-deficient transferrin (CDT) without having to bind CDT to a solid phase. The invention also describes an
                                                                                                                                                                                                                             New antibody specific for diagnosis of alcoholism, need for immobilization.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    antibody; carbohydrate-deficient transferrin; CDT;
non-glycosylated transferrin; alcoholism; alcoholic; diagnosis; human.
                                                                                                                                                      Example 7;
                                                                                                                                                                                                                                                                                                                                                                               WPI, 2004-073743/08
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human CDT peptide fragment #17
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                                                                                                                                                  Page 15; 21pp;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₹
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                                                                                                                                                                                                                                                                for carbohydrate-deficient transferrin, useful for
sm, can bind its target in solution, eliminating
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                                                                                                                                                      German.
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Pred. No.
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RESULT 10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    antibody that binds selectively to CDT at regions containing the sequences VVARSMGCKEDLIMELL, TERSIAKINMSEADAMSLDGGF, SKLSMGSGLNISEN and sequences VVARSMGCKEDLIMELL, TERSIAKINMSEADAMSLDGGF, SKLSMGSGLNISEN and Executing the antibodies of the invention. The antibodies of the invention are monoclonal, specifically from hybridomas DSM ACC2540 or 2541. The antibodies are obtained by immunisation with non-glycosylated for transferrin, or a fragment, then generation of hybridomas by standard transferrin, or a fragment, then generation of hybridomas by standard fituation of spleen and myeloma cella. Hybridomas are then selected for production of antibodies that specifically bind CDT from the aqueous phase. The antibodies that specifically bind CDT from the aqueous CC phase. The antibodies are useful for diagnosis of alcoholism, CDT, which calcoholics. The antibodies allow direct detection of CDT in solution, cC alcoholics. The antibodies allow direct detection of CDT in solution, cC alcoholics. The antibodies and ADG46075 ADG46094 represent CDT peptide fragments used in the method of the inventor.
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Matches
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                                                                                                                                                                                                                                        Butt R,
                                                                                                                                                        Diagnosing, or monitoring the effect of therapy of, chronic tissue (e.g. chronic dermal ulcer) comprises detecting and/or quantifying Repair-Associated protein isoform in a sample (e.g. wound exudate)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Tissue damage; chronic; tissue repair-associated protein isoform; TRPI; antiulcer; vulnerary; chronic dermal ulcer; human; tryptic digest;
                                                                                                                                                                                                                                                                                                                                       03-FEB-2003; 2003US-0444600P
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      proteclysis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TRPI derived human tryptic digest peptide, SEQ ID
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                                                                                                                                                                                                                    WPI; 2004-604404/58
                                                                                                                                                                                                                                                                                          (OXFO-)
                                                                                                                                                                                                                                                                                                                                                                   02-FEB-2004; 2004WO-US002881
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                                                                                                                                                                                                                                                                                                                                                                                                                             WO2004069795-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADR19359 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           fragments used in the method of the invention.
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                                                                                                                                                                                                                                                                                          OXFORD GLYCOSCIENCES UK LTD.
                                                                                                                                                                                                                                               Rumpel F
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100.0%; Pr
100.0%; O;
                                                                                                                                                                                                                                                             Williams-Jones BI,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            entry)
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 13;
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                                                                                                                                                           damage
Tissue
from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      which
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The invention relates to a novel method for assessing, screening, diagnosing or prognosing chronic tissue damage in a subject, identifying a subject at risk of developing chronic tissue damage, or monitoring the effect of therapy administered to a subject having chronic tissue damage. The method comprises detecting and/or quantifying in a biological sample from the subject a tissue repair-associated protein isoform (TRPI), given in the specification. The invention further comprises: an isolated or

Claim 7; SEQ

ID NO 21; 107pp; English

subject.

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RESULT 11
ADR15885
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Best Local S
Matches 11
The present invention describes an assay for a protein having at least two leoforms with different glycosylation patterns. The assay involves contacting a sample containing the protein with a proteolytic enzyme, followed by detecting the content or relative content of at least one peptide fragment produced by proteolysis. Also described is a kit for the assay method comprising the proteolytic enzyme and a substrate bound specific binding partner (S1) for at least 2 of the isoforms of the proteins. The method can be used for assaying isoforms of proteins according to their glycosylation pattern to determine their concentration or relative concentration in the sample or material (e.g. blood). The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   recombinant TRPI selected from the proteins listed in the specification; screening for or identifying an agent capable of modulating the expression or activity of the TRPI or a TRPI-related polypeptide; a pharmaceutical composition comprising the TRPI cited above or an active agent that modulates the expression and/or activity of the TRPI or a TRPI related polypeptide, and a pharmaceutical carrier, vehicle or diluent; and treating chronic tissue damage. The novel compositions have antiulcer and vulnerary activity. The composition and methods are useful for diagnosing, preventing, prognosing and treating chronic tissue damage, such as a chronic dermal ulcer. These may also be used for drug dermel uncer. These may also be used for drug screening or drug development, or for screening or identifying agents capable of modulating the activity of TRPI or TRPI-related polypeptides. This sequence represents a TRPI derived human tryptic digest peptide. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Assay for differentiating protein isoforms to determine their concentrations in sample e.g. blood, involves contacting the sample with proteolytic enzyme to produce peptide fragment by proteolysis followed by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          glycosylation;
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                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure;
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91.7%;
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Query Match Best Local Similarity

29.6**%**; 45.5**%**;

Score Pred.

34; No.

DB 4; 1.7e+02;

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                        The invention relates to diagnosing, determining the stage or severity, cc or identifying the risk of a subject developing cancer (especially breast cancer), or monitoring the effect of therapy on a subject with cancer, cc comprising analysing a test sample using two-dimensional electrophoresis and detecting Breast Cancer-Associated Protein Isoforms (BPIS). The methods disclosed are used for the diagnosis and prognosis of breast cancer, for determining the severity of breast cancer, and for identifying a subject at risk of developing breast cancer, and monitoring the effect of therapy administered to a subject. Antibodies raised cagainst the binding domain of a BPI, the binding domain of a BPI, a nucleic acid encoding a BPI, or a nucleic acid that inhibits the function of a BPI can be incorporated into a pharmaceutical composition for treating or preventing breast cancer. The methods use sensitive and specific blomarkers provide early diagnosis of breast cancer, and the compositions are more potent, specific, and has a more rapid effect with fewer side effects that other prior art methods. The present sequence is cancer, and the present sequence is a tryptic digest peptide from a BPI of the invention
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Matches 7
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Sequence
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24-MAR-2000; 2000GB-00007265.
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RESULT 13
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                                                                                                                 Sequence 12
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24-MAR-2000; 2000GB-00007265.
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GOLEALOVOGG 11
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RESULT 14

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RESULT 15
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                                                    AAB84372;
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24-MAR-2000; 2000GB-00007265
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                                                                                                                                                                                                                                      Length 12;
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Search completed: November Job time : 164 secs
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CC Transferrin polypeptides and polynucleotides are used to prevent, treat

CC or ameliorate a medical condition in e.g. humans, mice, rabbits, goats,

CC horses, cate, dogs, chickens or sheep. Disorders which are diagnosed or

CC treated include autoimmune diseases e.g. rheumatoid arthritis,

CC cardiovascular disorders e.g. neoplasms of the breast or liver,

CC cardiovascular disorders e.g. cardiac arrest, cerebrovascular disorders

CC e.g. cerebral ischemia, angiogenesis, nervous system disorders e.g.

CC Alzheimer's disease, infections caused by bacteria, viruses and fungi and

CC ocular disorders e.g. corneal infection. The polypeptides can also be

CC used to aid wound healing and epithelial cell proliferation, to prevent

CC skin aging due to sumburn, to maintain organs before transplantation, for

CC supporting cell culture of primary tissues, to regenerate tissues and in

CC chemotaxis. The polypeptides can also be used as a food additive or

CC preservative to increase or decrease storage capabilities
                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 9
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                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 12 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28-JUN-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Page 11; 290pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Isolated nucleic acid molecule encoding a human tranferrin protein is
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             in preventing, treating or ameliorating a medical condition.
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Pred. No. 1.7e+02;
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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Match Length
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1: /ggn2_6/ptodata/1/iaa/5A_COMB.pep:*

2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*

3: /ggn2_6/ptodata/1/iaa/6A_COMB.pep:*

4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*

5: /ggn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*

5: /ggn2_6/ptodata/1/iaa/backfIles1.pep:*
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     US-10-612-162A-2
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  US-08-484-438-31
US-08-468-178-14
US-08-478-90A-134
US-08-478-37-134
US-08-478-373-134
US-08-478-373-134
US-08-478-373-134
US-08-478-373-134
US-08-637-654-134
US-08-649-518-134
US-08-649-518-134
US-08-649-518-133
US-08-478-373-133
US-08-478-373-133
US-08-478-373-133
US-08-478-373-133
US-08-478-373-133
US-08-478-373-133
US-08-483-577A-133
US-08-483-577A-133
US-08-483-577A-133
US-08-483-577A-133
US-08-649-518-133
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Sequence 31, Appl
Sequence 14, Appl
Sequence 134, App
Sequence 133, App
Sequence 134, App
Sequence 135, App
Sequence 136, App1
Sequence 26, App1
Sequence 27, App1
Sequence 15, App1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Description
  CITY: New York
CITY: New York
COUNTRY: U.S.A.
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
COMPUTER: IBM PC COMPATIBLE
COMPUTER: IBM PC COMPATIBLE
COMPUTER: PATENTIN Release #1.0, Version #1.25
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION NUMBER: US/08/484,438
FILING DATE: 07-JUN-1995
CLASSIFICATION NUMBER: US/08/184,438
FILING DATE: 14-OCT-1994
APPLICATION NUMBER: US/08/150,704
FILING DATE: 14-OCT-1994
APPLICATION NUMBER: US/08/150,704
FILING DATE: 10-NOV-1993
CLASSIFICATION NUMBER: US/08/150,704
FILING DATE: 14-OCT-1994
APPLICATION NUMBER: US/08/150,704
FILING DATE: 14-OCT-1994
CLASSIFICATION STAR
APPLICATION NUMBER: US/08/150,704
FILING DATE: 14-OCT-1993
CLASSIFICATION NUMBER: US/08/150,704
FILING DATE: 14-OCT-1993
CLASSIFICATION NUMBER: US/08/150,704
FILING DATE: 18-OCW-1993
CLASSIFICATION NUMBER: US/08/150,704
FILING DATE: 24-NOV-1993
CLASSIFICATION UMBER: US/08/150,704
FILING DATE: 24-NOV-1993
CLASSIFICATION UMBER: US/08/150,704
FILING DATE: US/08/15
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US-08-484-438-31
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Patent No. 5811098 5780031
GENERAL INFORMATION:
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45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28
28	28	28	28	28	28	28	28	28	29	29	29	29	29	29	29	29	29
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US-09-413-492-127	US-08-934-223-127	-08-933-84	US-08-934-224-127	US-09-231-797-127	US-08-532-818-127	US-09-207-621-127	US-08-933-402-127	US-08-934-222-127	US-08-834-130A-41	US-08-256-747C-41	US-08-485-508-93	US-08-485-508-79	US-08-439-817-73	US-08-439-817-59	US-08-390-156A-44	US-08-390-156A-37	US-08-241-054-93
				Sequence 127, App				127,							•	•	Sequence 93, Appl

## Application US/08484438

ALIGNMENTS

APPLICANT: Plowman, Gregory D.
APPLICANT: Culouscou, Jean-Michel
APPLICANT: Shoyab, Mohammed
APPLICANT: Siegall, Clay B.
APPLICANT: Hellstr m, Ingegerd
APPLICANT: Hellstr m, Karl E.
TITLE OF INVENTION: HER4 HUMAN RECEPTOR TYROSINE KINASE NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS: ADDRESSEE: E: Pennie & Edmonds 1155 Avenue of the Americas

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RESULT 3
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Best Local S
Matches 6
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Best Local Similarity 29.0
Matches 5; Conservative
                                                                                                                                                                                                                                                                                              FILING DATE: 02-DEC-1991
ATTORNEY AGENT INFORMATION:
NAME: DIGIGITO, Frank S.
REGISTRATION NUMBER: 31,346
REFERENCE/DOCKET NUMBER: 6425
TELECOMMUNICATION INFORMATION:
TELEPHONE: 516-742-4343
TELEPHONE: 516-742-4366
                                                                                                                                                                                                                                                                   TELEX: 230 901 SANS UR INFORMATION FOR SEQ ID NO: 14:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
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                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
LENGTH: 23 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                      TOPOLOGY: 1: MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Sekiguchi, Kiyoshi
APPLICANT: Takeda, Katsumichi
TITLE OF INVENTION: DNA FRAGMENT CODING FOR SQUAMOUS CELL
TITLE OF INVENTION: CARCINOMA-ASSOCIATED ANTIGEN
                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 17 amino acids
TYPE: amino acid
STRANDEDNESS: single
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                                                                                                         Local Similarity
les 6; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY: Garden City
STATE: New York
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XGY: linear
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                                                                                                                        28.7%;
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                                                                                                                        Score 33;
Pred. No.
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2; Mismatches
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                                                                                                                        DB 1;
86;
                                                                                                                                       Length 23;
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; Sequence 134, Application US/08478435
; Patent No. 5922323
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                                           GENERAL INFORMATION:
APPLICANT: LOOSMOY
APPLICANT: Harkness
APPLICANT: Schryve:
APPLICANT: Chong, I
APPLICANT: Gray-Ow
                                                                                                                                                                                                                                                                                                    Matches
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Chong, Pele Gray-Owen, Scott Yang, Yan-Ping Murdin, Andrew Klein, Michel

Schryvers, Harkness, Robin

Loosmore,

Sheena Anthony

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US-08-487-890A-134
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET: 6th Floor, 330 Unviersity Avenue
CITY: Toronto
STATE: Ontario
COUNTRY: Canada
ZIP: M5G 1R7
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1
CURRENT APPLICATION DATA:
                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/08/487,890A FILING DATE: 07-JUN-1993 CLASSIFICATION: 435 CLASSIFICATION DATA: APPLICATION NUMBER: US 08/175,116 FILING DATE: 29-DEC-1993 PRIOR APPLICATION DATA: APPLICATION DATA: US 08/148,968 FILING DATE: 08-NOV-1993 ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                                                                            TELEFAX: (416) 595-11
INFORMATION FOR SEQ ID NO:
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APPLICANT:
APPLICANT:
                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
LENGTH: 16 amino acids
TYPE: amino acid
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                                                                                        Match 27.0%;
Local Similarity 60.0%;
                                                                                                                                                                   STRANDEDNESS: sir
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                        REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                        NAME: Stewart, Michael I
REGISTRATION NUMBER: 24,973
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                                   14 ADAMSLDGGF 23
                                                                        6,
ASTISLEGGF 12
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Gray-Owen, Scott
Yang, Yan-Ping
Murdin, Andrew
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Klein, Michel
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Harkness, Robin
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                                                                        Conservative
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                                                                                                                                                                                   single
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                                                                                          Score 31; DB 1;
Pred. No. 1.2e+0
                                                                        Mismatches
                                                                          3; Indels
                                                                                                            Length 16;
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US-08-337-483-134
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Best Local Similarity 60.0%;
Matches 6; Conservative
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INFORMATION FOR SEQ ID NO: 13.
SEQUENCE CHARACTERISTICS:
LENGTH: 16 amino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US/08/478,435
FILING DATE: 07-JUN-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/337,483
FILING DATE: 08-NOV-1994
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/175,116
FILING DATE: 29-DEC-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/148,968
FILING DATE: 08-NOV-1993
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APPLICANT:
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APPLICANT:
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APPLICANT:
TITLE OF IN
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME: Stewart, Michael I
REGISTRATION NUMBER: 24,973
REFERENCE/DOCKET NUMBER: 1038-462 MIS:vg
TELECOMMUNICATION INFORMATION:
TELEPHONE: (416) 595-1155
TELEPHONE: (416) 595-1156
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CORRESPONDENCE ADDRESS:
                                                           TITLE OF INVENTION: Transferrin Receptor Genes
NUMBER OF SEQUENCES: 147
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
       STREET: Suite
CITY: Toronto
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TOPOLOGY: lir
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ZIP: M5G 1R7
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CITY: Toronto
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                                                DDRESSEE: Sim & McBurney
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Ontario
                               Suite 701, 330 Unviersity Avenue
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Harkness, Robin
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Yang, Yan-Ping
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                                                                                                                                       Andrew
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Pred. No. 1.2e+0;
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                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/478,373
FILING DATE: 07-JUN-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/337,483
FILING DATE: 08-NOV-1994
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION HUMBER: US 08/337,483
FILING DATE: 08-NOV-1994
CLASSIFICATION DATA:
APPLICATION DATA:
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
CURRENT APPLICATION UMBER: US/08/337,483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
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APPLICANT:
APPLICANT:
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TITLE OF INVENTION: Transferrin Receptor Genes
NUMBER OF SEQUENCES: 147
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                       STREET: Suite 70
CITY: Toronto
STATE: Ontario
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hes 6; Conservation
                                                                                                                                                                                                                                                                                                                                      COUNTRY: Cana
ZIP: M5G 1R7
                  APPLICATION NUMBER: US 08/175,116 FILING DATE: 29-DEC-1993
                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE: Sim & McBurney STREET: Suite 701, 330 University Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: FILING DATE: 08-NOV CLASSIFICATION: 43
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Klein, Michel
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Yang, Yan-Ping
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Schryvers, Anthony
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Pred. No. 1.2e+02
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Best Local Similarity 60.0
Warches 6; Conservative
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REFERENCE/DOCKET NUMBER: 103
TELECOMMUNICATION INFORMATION:
TELEPHONE: (416) 595-1155
TELEPHA: (416) 595-1163
INFORMATION FOR SEQ ID NO: 134:
                                                                                                                                                                          FILING DATE: 07-JUN-1995
CLASSIFICATION: 530
PRIOR APPLICATION DATA: 08/337,483
FILING DATE: 08-NOV-1994
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                 APPLICATION NUMBER: US 08/175,116
FILLING DATE: 29-DEC-1993
PRIOR APPLICATION UNMBER: US 08/148,968
APPLICATION UNMBER: US 08/148,968
FILING DATE: 08-NOV-1993
ATTORNEY/AGENT INFORMATION:
ANDREY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC comparible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/474,671
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LENGTH: 16 amino acids
TYPE: amino acid
STRANDEDNESS: single
NAME: Stewart, Michael I
REGISTRATION NUMBER: 24,973
REFERENCE/DOCKET NUMBER: 1038-465 MI8:vg
TELECOMMUNICATION INFORMATION:
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ADDRESSEE: Sim & McB
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ATTORNEY/AGENT INFORMATION:
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Klein, Michel
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Yang, Yan-Ping
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Harkness, Robin
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60.0%;
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Pred. No. 1.2e+02;
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Best Local S
Matches 6
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 16 amino acids
                                                                         TELEFAX: (416) 595-1163
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                    CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/
FILING DATE: 08-NOV-1994
PRIOR APPLICATION NUMBER: US 08/
PRIOR APPLICATION NUMBER: US 08/
FILING DATE: 29-DEC-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/
FILING DATE: 08-NOV-1993
ATTORNEY/AGENT INFORMATION:
NAME: Stewart, Michael I
                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY: Canada
ZIP: M5G 17:
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM FC compatible
COMPUTER: IBM FC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                 NAME: Stewart, Michael I
REGISTRATION NUMBER: 24,973
REFERENCE/DOCKET NUMBER: 10.
TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Klein, Michel
TITLE OF INVENTION: Transferrin Receptor Genes
NUMBER OF SEQUENCES: 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
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Local Similarity 60.0%; Pred. No. 1.2e+02;
hes 6; Conservative 1; Mismatches 3
                  LENGTH: 16 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/0:
FILING DATE: 07-JUN-1995
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TYPE: amino acid
STRANDEDNESS: single
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STREET: Suite CITY: Toronto
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY:
                                                                                                                              TELEPHONE:
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Suite 701, 330 Unviersity Avenue
linear
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Yang, Yan-Ping
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear
                                                                                                                                  (416) 595-1155
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Query Match
Best Local Similarity
Thes 6; Conserve
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                                           Query Match
Best Local S
Matches 6
                                                                                                                 TELEFAX: (416) 595-1155
INFORMATION FOR SEQ ID NO: 13.
SEQUENCE CHARACTERISTICS:
LENGTH: 16 amino acide
TYPE: amino acide
STRANDEDNESS: Single
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Ploppy disk
COMPUTER: IBM PC compartible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/897,438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
APPLICANT:
APPLICANT:
TITLE OF IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                   NAME: Stewart, Michael I
REGISTRATION NUMBER: 24,973
REFERENCE/DOCKET NUMBER: 1038-720
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US 08/175,116
FILING DATE: 29-DEC-1993
PRIOR APPLICATION UNDER: US 08/148,968
APPLICATION UNDER: US 08/148,968
FILING DATE: 08-NOV-1993
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US 08/337,483 FILING DATE: 08-NOV-1994 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/483,577
FILING DATE: 07-JUN-1995
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 1
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ZIP: MSG 1R7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE:
14 ADAMSLDGGF 23
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                                          Similarity 6; Conserv
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Chong, Pele
Gray-Owen, Scott
Yang, Yan-Ping
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Harkness, Robin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                             Conservative
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                                                          27.0%;
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60.0%;
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    Mismatches

                                                          Score 31; DB 3;
Pred. No. 1.2e+0
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Pred. No. 1.2e+02;
                                             Mismatches
                             1.2e+02;
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                                                                        Length 16;
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US-08-637-654-134
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                                                                                                                                                US-08-649-518-134
                                                                                                                                                                 RESULT 11
                                                                                                                                                                                                                                                                                                                                US-08-637-654-134
                                                                                                                     Patent No.
                                                                                                                                   Sequence 134,
                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                    Best Local Similarity
                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 134,
                                                                                       GENERAL INFORMATION:
APPLICANT: LOOSMO
                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: (416) 595-1155
TELEFAX: (416) 595-1163
INFORMATION FOR SEQ ID NO: 134
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US
FILING DATE: 05-AUG-15
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
APPLICANT:
               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Ploppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER: 10
TELECOMMUNICATION INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Stewart, Michael I
REGISTRATION NUMBER: 24,
                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                            TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY: Canada
ZIP: M5G 1R7
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                                                                                                                                                                                                                                                                                                                                                                                          LENGTH:
                                                                                                                                                                                                                                        14 ADAMSLDGGF 23
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: Ontario
                                                                                                                  34, Application US/08649518
6361779
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6358727
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chong, Pele
Gray-Owen, Scott
Yang, Yan-Ping
Murdin, Andrew D
Klein, Michel H
                                                                                                                                                                                                                                                                                                                                                                                          16 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    E: Sim & McBurney
6th Floor, 330 University Avenue
Gray-Owen, Scott
Yang, Yan-Ping
Murdin, Andrew
                                                        Loosmore, Sheena
Harkness, Robin
Schryvers, Anthony
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Harkness, Robin E
                                             Chong, Pele
                                                                                                                                                                                                                                                                       Conservative
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                                                                                                                                                                                                                                                                                    27.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24,973
                                                                                                                                                                                                                                                                    Score 31; DB 3;
Pred. No. 1.2e+02;
1; Mismatches 3
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                                                                                                                                                                                                                                                                                                  Length 16;
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APPLICANT: Gray APPLICANT: Yang, Yan-Pliy
APPLICANT: Murdin, Andrew
APPLICANT: Murdin, Andrew
APPLICANT: Klein, Michel
TITLE OF INVENTION: Transferrin Receptor Genes
NUMBER OF SEQUENCES: 147
CORRESPONDENCE ADDRESS:
ADDRESSEE: Sim & McBurney
ADDRESSEE: Sim & McBurney
ADDRESSEE: Sim & McBurney
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 08-NOV-1993
ATTORNEY/AGENT INFORMATION:
NAME: Stewart, Michael I
REGISTRATION NUMBER: 24,973
REFERENCE/DOCKET NUMBER: 1038-608
TELECOMMUNICATION INFORMATION:
TELEPHONE: (416) 595-1163
INFORMATION FOR SEQ ID NO: 134:
                                                                                                                                                                                                                                                                                                                       Sequence 133, Application US/08487890A Patent No. 5708149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -08-649-518-134
                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US 08/483,577
FILING DATE: 07-JUN-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/175,116
FILING DATE: 29-DEC-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/148,968
APPLICATION NUMBER: US 08/148,968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: amino acids
STRANDEDNESS: single
TOPOLOGY: lines
                                                                                                                                                                                                                             APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US 08/337,483 FILING DATE: 08-NOV-1994 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION: 536 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Klein, Michel
TITLE OF INVENTION: Transferrin Receptor Genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET: 6th Fl
CITY: Toronto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Match 27.0%;
Local Similarity 60.0%;
les 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STATE: Ontario
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6th Floor, 330 Un
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Harkness, Robin
                                                                                                                                                                                                                                              Schryvers, Anthony
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Pred. No. 1.2e+02;
1; Mismatches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 16;
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US-08-478-435-133
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER: IBM PC COMPARTIBLE
COMPUTER: IBM PC COMPARTIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PALENTIN Release #1.0, Version #1.25
GURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/487,890A
FILING DATE: 07-JUN-1993
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/175,116
FILING DATE: 29-DEC-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/148,968
FILING PATE: 08-NOV-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
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Best Local Similarity 60.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 17 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE: (416) 595-11
TELEFAX: (416) 595-1163
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PILING DATE: 08-NOV-1993
ATTORNEY AGENT INFORMATION:
NAME: Stewart, Michael I
REGISTRATION NUMBER: 24,973
REFERENCE/DOCKET NUMBER: 1038
TELECOMMUNICATION INFORMATION:
TELEPHONE: (416) 595-1155
                                                                                                                                                                                                                                                                                                                                    APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
ZIP: M5G 1R7
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/478,435
FILING DATE: 07-JUN-1995
                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 147
CORRESPONDENCE ADDRESS:
ADDRESSE: Sim & MCBANTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                       APPLICANT:
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                                                                                                                                                        STREET: Suite CITY: Toronto STATE: Ontario COUNTRY: Canada
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STATE: C
COUNTRY:
ZIP: M5G
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lo. 59223
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MSG 1R7
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: Ontario
                                                                                                                                                                            Ontario
                                                                                                                                                                                                               E: Sim & McBurney
Suite 701, 330 University Avenue
                                                                                                                                                                                                                                                                                                   Murdin, Andrew
Klein, Michel
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Yang, Yan-Ping
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Pred. No. 1.3e+02;
1; Mismatches 3
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RESULT 14
US-08-337-483-133
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COMPUTER READABLE FORM:

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PACENTIN Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/337,483

FILING DATE: 08-NOV-1994

CLASSIFICATION: 435

ATTORNEY/AGENT INFORMATION:

NAME: Stewart, Michael I

REGISTRATION NUMBER: 24,973

REFERENCE/DCKET NUMBER: 1038-410 MIS:jb

TELECHMUNICATION INFORMATION:

TELEPHONE: (416) 595-1155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 133, Application US/08337483 Patent No. 5922562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
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APPLICATION NUMBER: US 08/1
FILLING DATE: 29-DEC-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/1
FILLING DATE: 08-NOV-1993
ATTORNEY/AGENT INFORMATION:
CFAMBER: Michael I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
APPLICANT: LOOSMO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: (416) 595-1163
INFORMATION FOR SEQ ID NO: :
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acids
STRANDEDNESS: single
TOPOLOGY: 14-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME: Stewart, Michael I
REGISTRATION NUMBER: 24,973
REFERENCE/DOCKET NUMBER: 1038-462 MIS:V9
TELECOMMUNICATION INFORMATION:
TELEPHONE: (41.6) 595-1155
                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF
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APPLICATION NUMBER: US 08/337,483
FILING DATE: 08-NOV-1994
                                                                                                                                                                                                                                                                                                                                         STREET: Suite 7
CITY: Toronto
STATE: Ontario
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           y Match 27.0%;
Local Similarity 60.0%;
nes 6; Conservative
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Chong, Pele
Gray-Owen, Scott
Yang, Yan-Ping
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Klein, Michel
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Harkness, Robin
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08-NOV-1993
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 31; DB 2;
Pred. No. 1.3e+02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3; Indels
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US-08-478-373-133
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                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/08/478,373
FILING DATE: 07-7UN-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/337,483
FILING DATE: 08-NOV-1994
CLASSIFICATION: 435
                                                                                                                       REGISTRATION NUMBER: 24,973
REFERENCE/DOCKET NUMBER: 10.
TELECOMMUNICATION INFORMATION:
TELEPHONE: (116) 595-1155
TELEFAX: (416) 595-1163
INFORMATION FOR SEQ ID NO: 133:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/175,116
FILING DATE: 29-DEC-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/148,968
APPLICATION NUMBER: US 08/148,968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STREET: Sur.
CITY: Toronto
Ontario
Ontario
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                        FILING DATE: 08-NOV-1993
ATTORNEY/AGENT INFORMATION:
NAME: Stewart, Michael I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
ADDRESSEE: Sim & McBurney
                                                                                                      SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA:
                                       LENGTH: 17 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ZIP: M5G 1R7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Suite 701, 330 University Avenue
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Version #1.25

1038-463 MIS: vg

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Query Match 27.0%;
Best Local Similarity 60.0%;
Matches 6; Conservative
                                                                                                                                                   INFORMATION FOR SEQ ID NO:
                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 17 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                         TOPOLOGY: linear
                                                                                                    amino acids
                                                                                                                                                       133:
               Score 31; DB 2; 1
Pred. No. 1.3e+02;
   Mismatches
 3; Indels
                            Length 17;
   0
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14 ADAMSLDGGF 23
3 ASTTSLEGGF 12
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0

NUMBER OF SEQUENCES: 33, Application US/08478373 5922841 INVENTION: Chong, Pele Gray-Owen, Scott Yang, Yan-Ping Murdin, Andrew Klein, Michel Schryvers, Loosmore, Sheena Harkness, Robin Transferrin Receptor Genes Anthony

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Query Match 27.0%; Score 31; DB 2; Length 17;
Bart Local Similarity 60%; Pred No. 1.3e-02;

QY 14 DAMS_DOGP 23

Db 3 ARTYLEGGF 12

Search completed: November 1, 2005, 13:53:07

Job time : 43 secs
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 s
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Maximum DB
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Perfect score:
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seq length: 23
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Gapop 10.0 ,
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Copyright (c) 1993 - 2005 Compugen Ltd.
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

110987654 110987654	Result
111 715 3344 3344 3344 3344	Score
100 67.0 29.6 29.6 29.6 29.6 29.6	
112223	Length DB
155 155 155 155 155 155 155 155 155 155	BB
US-10-612-162-2 US-10-394-980-20 US-10-952-557-20 US-09-981-126-6 US-09-988-493-10 US-10-266-745-6 US-10-378-094-5 US-10-378-060-4 US-10-314-060-4 US-10-311-494-8 US-10-700-330-101 US-10-801-990-1	SUMMARIES
Sequence 2, Appli Sequence 20, Appl Sequence 20, Appli Sequence 6, Appli Sequence 10, Appli Sequence 6, Appli Sequence 5, Appli Sequence 7, Appli Sequence 8, Appli Sequence 8, Appli Sequence 101, Appli	Description

RESULT 2 US-10-394-980-20

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16	. 15	15	15	15	14	14	13	13	13	13	13	10	19	20	20	20	13	13	13	12	12	10	23	17	17	15	20	20	17	16	14	12
w w	18	16	15	9	16	16	16	16	16	16	15	10	9	18	16	14	18	81	16	14	14	18	18	15	5	16	12	11	14	14	15	17
US-09-073-009-41 US-09-023-588-41	-309	9-	မွ်	US-09-826-290-144	-10-813-638-12	-10-813-638-12	-10-488-671-	-671-	-10-488-671-5	-488-671-	-469	72	-734-4	-10-862-195-	-10-679-03	-10-115-072-	-10-789-	-10-789-494E	-10-700-330-1	-10-251-526-2	-10-247-946-2	-10-937-042-	-10-862-19	-10-293-418-	-09-880-748-	US-10-416-249-415	-09-855-604-1	-09-855-604-	-10-043-344-	-10-043	-10-432-422-	US-10-801-990-12
Sequence 41, Appl Sequence 41, Appl	e 193	Sequence 417, App	e 193	144,	129	e 1237	54,	53,	52,	v	æ	e 4	4	N		e 18,	89	e 80 ,	e 184	e 27,	e 27	e 28, i	e 357, ‡	e 3151,	e 3151,	e 415,	Φ	e 138,	e 133,	ø	88,	Sequence 12, Appl

## ALIGNMENTS

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PRESULT 1
US-10-612-162-2

Sequence 2, Application US/10612162

Publication No. US20040014145A1

GENERAL INFORMATION:
GENERAL INFORMATION: Carbohydrate deficient transferrin (CDT)-specific TITLE OF INVENTION: Carbohydrate deficient transferrin (CDT)-specific TITLE OF INVENTION: antibodies, their preparation and use
FILE REFERENCE: 2002/B001

CURRENT APPLICATION NUMBER: US/10/612/162

CURRENT FILING DATE: 2003-07-03

PRIOR APPLICATION NUMBER: 10230550.1

PRIOR FILING DATE: 2003-07-05

PRIOR FILING DATE: 2003-05-19

NUMBER OF SEQ ID NOS: 4

SOFTWARE: Patentin Ver. 2.1

SEQ ID NO 2

LENGTH: 23

TYPE: PRT

ORGANISM: Homo sapiens

US-10-612-162-2

Query Match
Best Local Similarity 100.0%; Score 115; DB 15; Length 23;
Best Local Similarity 100.0%; Pred. No. 5.5e-11;
Matches 23; Conservative 0; Mismatches 0; Gaps 0;

Matches 23; Conservative 0; Mismatches 0; Gaps 0;

1 TTEDSIAKIMNGEADAMSLDGGF 23

Db 1 TTEDSIAKIMNGEADAMSLDGGF 23
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; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: MISC_FEATURE
; OTHER INFORMATION: part of TRFE_HUMAN ((P02787) serotransferrin precursor)
US-10-952-557-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
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; FEATURE;
; NAME/KEY: MISC_FEATURE
; OTHER INFORMATION: part of TRFE_HUMAN ((P02787) serotransferrin precursor)
US-10-394-980-20
                                                                                                                                                                                                                                                                                                           CURRENT FILING DATE: 2004-09-28
PRIOR APPLICATION NUMBER: US/10/394,980
PRIOR FILING DATE: 2003-03-21
PRIOR PPLICATION NUMBER: PCT/EP02/03368
PRIOR FILING DATE: 2002-03-22
PRIOR APPLICATION NUMBER: US60/278,171
PRIOR PILING DATE: 2001-03-22
PRIOR PILING DATE: 2001-03-22
PRIOR APPLICATION NUMBER: US60/318,749
PRIOR APPLICATION NUMBER: US60/318,749
PRIOR APPLICATION NUMBER: US60/318,749
PRIOR FILING DATE: 2001-09-12
PRIOR FILING DATE: 2001-09-12
PRIOR FILING DATE: 2001-09-10
PRIOR FILING DATE: 2001-09-10
PRIOR FILING DATE: 2001-09-20
PRIOR FILING DATE: 2001-09-20
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CURRENT APPLICATION NUMBER: US/10/394,980
CURRENT FILING DATE: 2003-03-21
PRIOR APPLICATION NUMBER: CT/EP02/03368
PRIOR FILING DATE: 2002-03-22
PRIOR APPLICATION NUMBER: US60/278,171
PRIOR FILING DATE: 2001-03-22
PRIOR FILING DATE: US00/278,171
PRIOR APPLICATION NUMBER: US60/318,749
PRIOR FILING DATE: 2001-09-12
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Best Local S
Matches 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 20, Application US/10952557 Publication No. US20050196823A1 GENERAL INFORMATION:
Query Match
Best Local Similarity
                                                                                                                                                                                                                                                            SOFTWARE: PatentIn version 3.1
SEQ ID NO 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 20
LENGTH: 21
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Gevaert, Kris
TITLE OF INVENTION: METHODS AND APPARATUS FOR GEL-FREE QUALITATIVE AND
TITLE OF INVENTION: QUANTITATIVE PROTEOME ANALYSIS, AND USES THEREFOR
FILE REFERENCE: VBV-001
CURRENT APPLICATION NUMBER: US/10/952,557
CURRENT FILING DATE: 2004-09-28
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PRIOR FILING DATE: 2001-09-20
NUMBER OF SEQ ID NOS: 473
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TITLE OF INVENTION: METHODS AND APPARATUS FOR GEL-FREE QUALITATIVE AND
TITLE OF INVENTION: QUANTITATIVE PROTEOME ANALYSIS, AND USES THEREFOR
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                                                                                                                                                                                                                                        LENGTH: 21
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15; Conserv
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No. US20040005633A1
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  67.0%;
  Score 77;
Pred. No.
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5e-05;
  DB 18;
5e-05;
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                                                                                                                                                 ; ORGANISM: homo sapien US-09-988-493-10
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US-09-891-126-6
                                                                                                                                                                                                                                                    CURRENT APPLICATION NUMBER: US/09/988,493
CURRENT FILING DATE: 2002-05-21
PRIOR APPLICATION NUMBER: PCT/GB01/01219
PRIOR FILING DATE: 2001-03-20
PRIOR FILING DATE: 2000-03-20
PRIOR PILING DATE: 2000-03-20
PRIOR APPLICATION NUMBER: GB 0007265.2
PRIOR PILING DATE: 2000-02-24
NUMBER OF SEQ ID NOS: 308
SOFTWARE: FastSEQ for Windows Version 4.0
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LENGTH: 12
TYPE: PRT
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APPLICANT: Ruben et al.

TITLE OF INVENTION: Transferrin Polynucleotides, Polypeptides,

TITLE OF INVENTION: Transferrin Polynucleotides,

PILE REFERENCE: PT035P1
CURRENT FILING DATE: 2001-06-26

PRIOR APPLICATION NUMBER: PCT/US00/34769

PRIOR APPLICATION NUMBER: PCT/US00/34769

PRIOR FILING DATE: 2000-12-21

PRIOR PILING DATE: 1999-12-23

NUMBER: OF SEQ ID NOS: 7

PRIOR PILING DATE: 1999-12-23

NUMBER OF SEQ ID NOS: 7
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Best Local Similarity
Matches 9; Conserv
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LENGTH: 12
                                                            Query Match 29.6%;
Best Local Similarity 45.5%;
Matches 5; Conservative
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Patent No. US20020072596A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: PatentIn Ver. 2.0
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ORGANISM: Homo sapiens
12 GEADAMSLDGG 22
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Pred. No. 1.6e+02;
1; Mismatches 2
                                                                Score 34; DB 10; Length 12; Pred. No. 1.6e+02; Indels 4; Mismatches 2; Indels
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APPLICANT: PRIOR, C!
APPLICANT: LAI, Che
APPLICANT: SADEGHI,
APPLICANT: TURNER,
APPLICANT: TURNER,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-266-745-6
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SEQ ID NO 5
LENGTH: 12
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Best Local Similarity 64.3%;
Matches 9; Conservative
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                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: US 10/231,494
PRIOR ETILING DATE: 2002-08-30
PRIOR APPLICATION NUMBER: US 60/334,059
PRIOR FILING DATE: 2001-11-30
PRIOR APPLICATION NUMBER: US 60/315,745
PRIOR PILING DATE: 2001-08-30
NUMBER OF SEQ ID NOS: 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: TURNER, Andrew
TITLE OF INVENTION: MODIFIED TRANSFERRIN FUSION PROTEINS
FILE REFERRNCE: 54710-5001-01-US
CURRENT APPLICATION NUMBER: US/10/378,094
CURRENT FILING DATE: 2003-04
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PRIOR FILING DATE: 2001-06-26
PRIOR APPLICATION NUMBER: PCT/US00/34769
PRIOR FILING DATE: 2000-12-21
PRIOR APPLICATION NUMBER: 60/171,595
PRIOR FILING DATE: 1999-12-23
NUMBER OF SEQ ID NOS: 7
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CURRENT FILING DATE: 2002-10-09
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TITLE OF INVENTION: Transferrin Polynucleotides, Polypeptides, and Antibodies
FILE REFERENCE: PT035P1
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TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                             ORGANISM: Artificial sequence
                                                                                                                                                                                                                                                        TYPE: PRT
                                                                                                                                                                                       OTHER INFORMATION: Neutrophil lactoferrin splice variant
                                                                                                                                                                                                             FEATURE:
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                                                                                Similarity
9, Conserv
                                      EDSIAKIMNGEADA 16
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SADEGHI, Homayoun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Christopher P
                                                                                                    29.6%;
                                                                                                    Score 34; DB 15; Length 12; Pred. No. 1.6e+02;
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                                                                                  Mismatches
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                                                                                                                                                        ) OTHER INFORMATION: Lactoferrin splice variant sequence US-10-231-494-8
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US-10-384-060-4
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PRIOR FILING DATE: 2002-08-30
PRIOR PELICATION NUMBER: US 60/334,059
PRIOR FILING DATE: 2001-11-30
PRIOR APPLICATION NUMBER: US 60/315,745
PRIOR APPLICATION NUMBER: US 60/406,977
PRIOR FILING DATE: 2002-08-30
PRIOR FILING DATE: 2002-08-30
                                                                                                                                                                                                                                                                     PRIOR APPLICATION NUMBER: US 60/334,059
PRIOR FILING DATE: 2001-11-30
NUMBER OF SEQ ID NOS: 30
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 8
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SOFTWARE: PatentIn version 3.2
SEQ ID NO 4
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Publication No. US20040023334A1
GENERAL INFORMATION:
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Best Local Similarity
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION NUMBER: US 60/315,745 PRIOR FILING DATE: 2001-08-30
                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: Modified Transferrin Fusion Proteins FILE REFERENCE: 54710-5001-US CURRENT APPLICATION NUMBER: US/10/231,494 CURRENT FILING DATE: 2002-08-30
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CURRENT FILING DATE: 2003-03-10
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TITLE OF INVENTION: MODIFIED TRANSFERRIN-ANTIBODY FUSION PROTEINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Prior, Christopher P.
                                                                                                                                                                                         LENGTH: 12
TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
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ORGANISM: Artificial sequence
FEATURE:
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                                                                                            Score 34; DB 15;
Pred. No. 1.6e+02
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Pred. No. 1.6e+02;
1; Mismatches 2
                                                                            Mismatches
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US-10-801-990-12
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Best Local S
Matches 7
Sequence 12, Application US/10801990
Publication No. US20050048574A1
GENERAL INFORMATION:
APPLICANT: Kantor, Aaron B.
APPLICANT: Schulman, Howard
APPLICANT: Becker, Christopher
TITLE OF INVENTION: BIOMARKERS FOR RHEUMATOID ARTHRITIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 1, Application US/10801990 Publication No. US20050048574A1 GENERAL INFORMATION:
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SEQ ID NO 1
LENGTH: 15
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SEQ ID NO 101
LENGTH: 12
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                                                                                                                                                                                                                                                                                                                                                                                               -10-801-990-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILE REFERENCE: SURR.121
CURRENT APPLICATION NUMBER: US/10/801,990
CURRENT FILING DATE: 2004-03-15
PRIOR APPLICATION NUMBER: US 60/455,037
PRIOR FILING DATE: 2003-03-14
NUMBER OF SEQ ID NOS: 395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION: Proteins and Genes For Diagnosis And Treatment of ErbB2-Related FILE REFERENCE: 2543-1-031 CURRENT APPLICATION NUMBER: US/10/700,330 CURRENT FILING DATE: 2003-11-03 PRIOR APPLICATION NUMBER: GB 0110886.9 PRIOR APPLICATION NUMBER: GB 0110886.9 PRIOR FILING DATE: 2001-05-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Schulman, Howard
APPLICANT: Becker, Christopher
TITLE OF INVENTION: BIOMARKERS FOR RHEUMATOID ARTHRITIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION NUMBER: GB 0128183.1
PRIOR FILING DATE: 2001-11-23
NUMBER OF SEQ ID NOS: 269
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Herath, Mudiyanselage Athula Chandrasiri Herath APPLICANT: Page, Martin John
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ORGANISM: Homo sapiens
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ORGANISM: Homo sapiens
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Pred. No. 3e+02;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Liu, Shen-wen
IIIILE OF INVENTION: Fungal Iron Reductase Gene
FILE REFERENCE: 1360.017WO1
CURRENT APPLICATION NUMBER: US/10/432,422
CURRENT FILING DATE: 2003-05-21
PRIOR APPLICATION NUMBER: US 60/252,732
PRIOR FILING DATE: 2000-11-22
PRIOR APPLICATION WIMBER: US 60/252,649
PRIOR FILING DATE: 2000-11-22
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APPLICANT: LOOSMOZE, Sheena M.
APPLICANT: Harkness, Robin E.
APPLICANT: Schryvers, Anthony B.
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SEQ ID NO 88
LENGIH: 14
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CURRENT FILING DATE: 2004-03-15
PRIOR APPLICATION NUMBER: US 60/455,037
PRIOR FILING DATE: 2003-03-14
NUMBER OF SEQ ID NOS: 395
SOFTWARE: Patentin version 3.2
SEQ ID NO 12
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            APPLICANT: Chong, Pele
APPLICANT: Gray-Owen, Scott
APPLICANT: Murdin, Andrew D.
APPLICANT: Klein, Michel H.
TITLE OF INVENTION: TRANSFERRIN RECEPTOR GENES
FILE REFERENCE: 1038-1221 MIS
CURRENT APPLICATION NUMBER: US/10/043,344
CURRENT FILING DATE: 2002-07-01
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TYPE: PRT
PRIOR APPLICATION NUMBER: 08/649,518
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Lu, Shen-wen
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Pred. No.
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APPLICANT: Murdin, Andrew D.
APPLICANT: Klein, Michel H.
FILE OF INVENTION: TRANSFERRIN RECEPTOR GENES
FILE REFERENCE: 1038-121 MLS
CURRENT APPLICATION NUMBER: US/10/043,344
CURRENT FILING DATE: 2002-07-01
PRIOR APPLICATION NUMBER: 08/649,518
PRIOR FILING DATE: 1996-05-17
NUMBER OF SEQ ID NOS: 160
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 133
LENGTH: 17
TYPE: PRT
ORGANISM: Haemophilus influenzae
US-10-043-344-133
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US-10-043-344-133
Sequence 133, Application US/10043344
Publication No. US20030088086A1
GENERAL INFORMATION:
APPLICANT: LOOSMOTE, Sheena M.
APPLICANT: Harkness, Robin E.
APPLICANT: Schryvers, Anthony B.
APPLICANT: Chong, Pele
APPLICANT: Gray-Owen, Scott
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; NUMBER OF SEQ ID NOS: 160
; SOFTWARE: PATENTIN Ver. 2.1
; SEQ ID NO 134
; LENGTH: 16
; TYPE: PRT
; ORGANISM: Haemophilus influenzae
US-10-043-344-134
Search completed: November 1, 2005, 14:05:54 Job time : 167 secs
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Copyright (c) 1993 - 2005 Compugen Ltd
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cytochrome P450 CY
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DSIMKVSQGVA 16 DSIAKIMNGEA 14 A; Molecule type: A; Residues: 1-23

mRNA <DIN>

Query Match
Best Local Similarity
Matches 6; Conserv

Conservative

1; Mismatches Score 28; DB 2; Pred. No. 6e+02;

4; Indels Length 23;

0,

Gaps

0

24.3%;

RESULT 2 S54339 cytochrome P450 CYP2A7AS - human C;Species: Homo sapiens (man) C;Date: 27-Oct.1995 #sequence_revision 03-Nov-1995 #; C;Accession: S54339 R;Ding, S; Lake, B.G.; Friedberg, T.; Wolf, C.R. Biochem. J. 306, 161-166, 1995 A;Title: Expression and alternative splicing of the 4A;Reference number: S54338; MUID:95169049; PMID:78644 A;Accession: S54339 A;Status: preliminary	Query Match 27.0%; Score 31; DB 2; I Best Local Similarity 45.5%; Pred. No. 1.3e+02; Matches 5; Conservative 3; Mismatches 3; Qy 13 EADAMSLDGGF 23   :   :       Db 4 EREQMAISGGF 14	n SNAP-25 peptide 10 n peptide 10B us (domestic rabbit) revision 18-Nov-1994 gger, C.; Willard, M. 91 ine-labeled rapidly ID:92044785; PMID:19	ALIGNMENTS	30 22 19.1 10 2 PT0309 31 22 19.1 10 2 C39572 32 22 19.1 11 2 A35594 33 22 19.1 18 2 PH1349 34 22 19.1 18 2 I78841 35 22 19.1 20 2 B61333 36 22 19.1 20 2 S53440 37 22 19.1 20 2 A56899 38 22 19.1 20 2 A56899 39 22 19.1 21 2 S33868 39 22 19.1 22 S06487 40 21 18.3 10 2 E41946 41 21 18.3 10 2 C60787 42 21 18.3 15 2 PA0075 43 21 18.3 15 2 PA0075 44 21 18.3 16 2 H29501 45 21 18.3 16 2 H29501
#text_change 07-May-1999 cytochrome P-450 CYP2A7.	Length 16; ; Indels 0; Gaps 0;	#text_change 15-Jun-1996  #transported protein (superprotein)  #1090  #1090		Ig heavy chain CRD sperm-activating p buccalin - Califor Ig heavy chain DJ thrombopoietin rec chymotrypsin (EC 3 glutathione-bindin serum heterodimer, quinaldic acid 4-o glycine cleavage s T-cell receptor ga sperm-activating p unidentified 85K p fructose-bisphosph fibrinopeptide A - rRNA N-glycosidase

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A;Residues: 1-10
A;Cross-reference
C;Superfamily:
                                                                                                                                                                                                                          N;Contains: fibrinopeptide A
C;Species: Erythrocebus patas (red guenon, hussar)
C;Date: 05-Jun-1988 #sequence_revision 10-Mar-1994 #text_change 09-Jul-2004
C;Accession: B24180
C;Accession: B24180
R;Nakamura, S.; Takenaka, O.; Takahashi, K.
J. Biochem. 97, 1487-1492, 1985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Molecule type: protein
A;Residues: 1-16 <BLO>
C;Superfamily: fibrinogen alpha chain; fibrinogen disulfide ring
                                                                                                          uenons, and baboons.
A;Reference number: A91990; MUID:85289140; PMID:3928610
A;Accession: B24180
A;Molecule type: protein
A;Residues: 1-16 <NAK>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C;Accession: A29501
R;Blombaeck, B; Blombaeck, M; Hann, C.
unpublished results, cited by Blombaeck,
A;Reference number: A29501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Species: Papio sp. (baboon)
C;Date: 21-Nov-1987 #sequence_revision 21-Nov-1987 #text_change 26-Jan-1996
C;Accession: A29501
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R;Takami, H.; Nakasone, K.; Takaki, Y.; Maeno, G.; Sasaki, R.; Masui, N.; Fuji, F.; Nucleic Acids Res. 28, 4317-4331, 2000
Nucleic Acids Res. 28, 4317-4331, 2000
A;Title: Complete genome sequence of the alkaliphilic bacterium Bacillus halodurans A;Reference number: A83650; MUID:20512582; PMID:11058132
A;Accession: H83991
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A; Residues: 1-22 <STO>
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Matches 5
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Best Local S
Matches 5
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                                                                                              Cross-references: UNIPROT:P12803
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                                                                      alpha chain; fibrinogen disulfide ring homology
Score 26; DB
Pred. No. 8.2e
2; Mismatches
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Pred. No. 8.2e+02;
2; Mismatches 4
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8.2e+02;
6;
                   8.2e+02;
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fibrinopeptide A - gelada baboon
C;Species: Theropithecus gelada (gelada baboon)
C;Date: 19-May-1989 #sequence_revision 19-May-1989 #text_cl
C;Accession: C28854
R;Nakamura, S; Takenaka, O; Takahashi, K.
J. Biochem. 94, 1973-1978, 1983
A;Title: Fibrinopeptides A and B of baboons (Papio anubis, A;Reference number: A91973; MUID:84161822; PMID:6423621
A;ACCEBBION. CITY PROTEIN
A;Residues: 1-16 <NAK>
A;Cross-references: UNIPROT:P12803
A;Cross-references: UNIPROT:P12803
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C28854
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fibrinopeptide A - hamadryas baboon
C;Species: Papio hamadryas (hamadryas baboon)
C;Date: 19-May-1989 #sequence_revision 19-May-1989
C;Accession: B2854
C;Accession: B2854
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c;Species: Macaca fuscata (Japanese macaque)
C;Date: 05-Jun-1988 #sequence_revision 05-Jun-1988 #text_change
C;Accession: A24180
R;Nakamura, S.; Takenaka, O.; Takahashi, K.
J. Biochem. 97, 1487-1492, 1985
A;Title: Fibrinopeptides A and B of Japanese monkey (Macaca fuscuenons, and baboons.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Molecule type: protein
A;Residues: 1-16 <NAK>
A;Residues: 1-16 <NAK>
A;Cross-references: UNIPROT:P12803
C;Superfamily: fibrinogen alpha chain; fibrinogen disulfide ring
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A24180
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C;Superfamily: fibrinogen alpha chain; fibrinogen disulfide ring
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J. Biochem. 94, 1973-1978, 1983
                                                                                   A; Accession: C28854
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    fibrinogen disulfide ring homology
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PMID:6423621
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RESULT 9
A28854
fibrinopeptide J
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A;Title: Isolation, characterization, and (A,Reference number: A53652; MUID:94327521; A;Accession: C53652
A; Accession: $03879

A; Accession: $03879

A; Accession: $03879
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S03879
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C;Date: 21-Jul-1995 #sequence revision
C;Accession: C53652
R;Ochsner, U.A.; Fiechter, A.; Reiser,
J. Biol. Chem. 269, 19787-19795, 1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C/Species: Paplo anubis, Paplo hamadryas anubis (ol. C;Date: 19-May-1989 #sequence_revision 19-May-1989; C;Accession: A28854
R;Makamura, S.; Takenaka, O.; Takahashi, K.
J. Biochem. 94, 1973-1978, 1983
A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: Fibrinopeptides A and B of baboons (Papio A) A;Title: 
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A;Molecule type: DNA
A;Residues: 1-11 <OCH>
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Pred. No. 7.7e+02;
0; Mismatches 2;
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Pred. No. 8.2e+02;
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PMID:6423621
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RESULT 14
Sl9015
hypothetical protein 11 ruvC-yebC intergenic region - Escherichia coli
C;Species: Escherichia coli
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-
C;Accession: S19015
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$16073
elanine-tRNA ligase (EC 6.1.1.7) - rat (fragment)
N;Alternate names: alanyl-tRNA synthetase
C;Species: Rattus norvegicus (Norway rat)
                                                                                                                                                                                                                                                                                                                              R;Dignam, J.D.; Dignam, S.S.; Brumley, L.L.
Eur. J. Biochem. 198, 201-210, 1991
A;Title: Alanyl-CRNA synthetase from Escherichia coli,
A;Reference number: S16072; MUID:91249799; PMID:2040280
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C;Keywords: aminoacyl-tRNA synthetase; ATP; ligase; protein biosynthesis
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A;Title: Genome rearrangements by residual A;Reference number: I53672; MUID:94040791; A;Accession: I53672
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C;Date: 07-Jun-1996 #sequence_revision 31-Jul-1997
C;Accession: IS3672
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A;Note: the sequence from the summary is inconsistent with that C;Keywords: glycolysis; phosphotransferase
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A; Residues: 1-20 <BOG>
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153672
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Pred. No. 1.5e+03;
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Pred. No. 9.3e+02;
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PMID:8224890
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R;Sharples, G.J.; Lloyd, R.G.

J. Bacteriol. 173, 7711-7715, 1991

A;Title: Resolution of Holliday junctions in Escherichia coli: identification of the ruv A, Reference number: S19013; MUID:92041688; PMID:1657895

A;Accession: S19015

A;Molecule type: DNA

A;Molecule type: DNA

A,Residues; 1-11 <6HA>

A;Cross-references: UNIPROT:Q47420; EMBL:X59551; NID:g42172; PIDN:CAA42127.1; PID:g42174

C;Comment: This is the hypothetical translation of a sequence that was not reported as a
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PH1172
T-cell receptor alpha chain V region (Cw3/Cas15) - human (fragment)
C;Species: Homo sapiens (man)
C;Species: Homo sapiens (man)
C;Date: 16-Jul-1999 #sequence_revision 16-Jul-1999 #text_change 16-Jul-1999
C;Accession: PH1172
R;Casanova, J.L.; Cerottini, J.C.; Matthes, M.; Necker, A.; Gournier, H.; Barra, C.; Wid J. Exp. Med. 176, 439-447, 1992
A;Title: H-2-restricted cytolytic T lymphocytes specific for HLA display T cell receptor A;Reference number: S26512; MUID:92364546; PMID:1380061
A;Accession: PH1172
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-12 <CAS>
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Matches 4; Conservative 0; Mismatches 0;
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genealogy of the transferrin gene in the brown trout.";

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19:1272-1287 (2002).

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MEDLINE=96207403; PubMed=8615017; DOI=10.1006/viro.1996.0174; Groeneveld H., Oudot F., van Duin J.V.;

"RNA phage KUI has an insertion of 18 nucleotides in the start of its lysis gene.";

Virology 218:141-147(1996).

EMBL; S81763; AAD14371.1; -.

HSSP; P07234; IUNA.

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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-UN-2000 (TrEMBLrel. 14, Last sanotation update)
10-GHAP (TremBLrel. 14, Last annotation update)
10-Affinity interleukin-4 receptor (Fragment).
10-GHAP (Human).
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"Lung-derived growth factor that stimulates
metastasizing tumor cells: identification as
J. Cell. Biochem. 47:261-271(1991).
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                                                                                                                                                                                          interleukin-4 on pre-B cells.";
Blood 81:2998-3005(1993).
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Mammalia; Eutheria;
                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=92165927; PubMed=1791188;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
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                                                                                                                                                                                                                                                                                                                        SEQUENCE
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                                     14 ADAMSLDG
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11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity 56.: 9; Conservative
                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADAMSLNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KIGNPVADAISSQSGF 16
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(TrEMBLrel. 13, Last s
(TrEMBLrel. 21, Last a
PEPTIDE 60 (Fragment).
                                                                                    Conservative
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                                                                                                                                                                      1853 MW;
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Rodentia;
                                                                                                      24.3%;
62.5%;
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87.5%;
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Last annotation update)
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Pred.
                                                                                                        Score 28; DB 2;
Pred. No. 3.6e+03;
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1; Mismatches 6
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Sciurognathi;
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chi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .6e+06;
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transferrin.";
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                                                                                                                            Length 18;
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                                                                                                                                                                                                                                                                                      MEDLINE=22386257; Pubmed=12477932; DOI=10.1073/pnas.242603899;

Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

Altschul S.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

Altschenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

Altschenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

Altschenko L., Marusina K., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

Blackelton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

Altschenko L., Marusina K.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

Blackelton M., Uddin T.B., Toshiyuki S., Carninci P., Prange C.,

Altschenko L., Medin T.B., Toshiyuki S., Carninci P., Prange C.,

Altschenko L., Moderna N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

Altschenko S., Worley K.C., Hale S., Garcia A.M., Gunaratne P.H.,

Altschenko S., Worley K.C., Hale S., Garcia A.M., Gibbs R.A.,

Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

Altschenko S., Worley K.C., Hale S., Garcia A.M., Rodrigues S., Sanchez A.,

Wilting M., Wadan A., Young A.C., Shevchenko Y., Boutfard G.G.,

Altscheley R.W., Touchman J.W., Green E.D., Dickson M.C.,

Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

Althe G. J. Marta M. A., Schmutz J., Myers R.M., Schein J.E.,

Althe G. J. Marta M. A., Schmutz J., Myers R.M., Schein J.E.,

Althe G. J. Marta M. A., Schmutz J., Schmerch A., Schein J.E.,

Althe G. J. Marta M. A., Schmutz J., Schmerch A., Schein J.E.,
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Best Local
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Q6S8F0;
05-JUL-2004
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05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
Putative 26S proteasome regulatory subunit 8 (Fragment).
Musa acuminata (Banana).
Eukaryota, Viridiplantas, Streptophyta, Embryophyta, Tracheophyta,
Spermatophyta, Magnollophyta, Lillopsida, Zingiberales, Musaceae;
                               Strausberg R.;
Submitted (OCT-2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   05-JUL-2004 (TrEMBLrel. Dl1Wsu47e protein. Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bastos W.A., do Nascimento J.R.O., Lajolo F.M., Purgatto Submitted (NOV-2003) to the EMBL/GenBank/DDBJ databases. EMBL; AY463021; AAR88784.1; -. GO; GO:0005829; C:cytosol; IEA.
                                                                                  STRAIN=C57BL/6; TISSUE-Brain;
                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN=C57BL/6;
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Mammalia; Eutheria; Rodentia;
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                                                                                                                                                                                                                                      Jones S.J., Marra M.A.; "Generation and initial analysis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
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                                                                                                                                                                                                          mouse cDNA sequences.
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BC060257; AAH60257.1;
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                                                                                                                                                                             Acad. Sci. U.S.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2519 MW;
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43.8%;
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27,
27,
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Last sequence update)
Last annotation updat
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                            EMBL/GenBank/DDBJ databases
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 27.5;
Pred. No. 5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Craniata; Vertebrata; | Sciurognathi; Muridae;
                                                                                                                                                                                99:16899-16903 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
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5.1e+03;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Euteleostomi; 
; Murinae; Mus
                                                                                                                                                                                                                                         full-length humar
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Carlton J.M., Angiuoli S.V., Suh B.B., Kooij T.W., Pertea M.,
Silva J.C., Ermolaeva M.D., Allen J.E., Selengut J.D., Koo H.L.,
Silva J.C., Ermolaeva K.D., Allen J.E., Selengut J.D., Koo H.L.,
Peterson J.D., Pop M., Kosack D.S., Shumway M.F., Bidwell S.L.,
Shallom S.J., van Aken S.E., Riedmuller S.B., Feldblyum T.V.,
Shallom S.J., van Aken S.E., Riedmuller S.B., Feldblyum T.V.,
Cho J.K., Quackenbush J., Sedegah M., Shoaibi A., Cummings L.M.,
Florens L., Yates F.R. III, Raine J.D., Sinden R.E., Harris M.A.,
Cunningham D.A., Preiser P.R., Bergman L.W., Vaidya A.B.,
van Lin L.H., Janse C.J., Waters A.P., Smith H.O., White O.R.,
van Lin L.H., Janse C.J., Waters A.P., Smith H.O., White O.R.,
Salzberg S.L., Venter J.C., Fraser C.M., Hoffman S.L., Gardner M.
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Q7RLN8;
                              SEQUENCE FROM N.A. STRAIN=C-125;
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BH2736 protein.
                                                                                                                       NCBI_TaxID=86665;
                                                                                                                                                                 Bacteria;
                                                                                                                                                                                            Bacillus halodurans
                                                                                                                                                                                                                              OrderedLocusNames=BH2736;
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MEDLINE=20512582;    PubMed=11058132;    DOI=10.1093/nər/28.21.4317;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Genome sequence and comparative analysis parasite Plasmodium yoelii yoelii."; Nature 419:512-519(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN=17XNL;
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Eukaryota; Alveolata; Ap
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50.0%;
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01-JUN-2003
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MEDLINE=94282317; PubMed=8012593; Milson R.P., Beijer L., Rutberg "The glpT and glpQ genes of the g subtilis."; Microbiology 140:723-730(1994).
                                                                                                                                                                                                                                                                        05-JUL-2004 (TrEMBLrel. 27, Created)
05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last annotation updat
05-JUL-2004 (TrEMBLrel. 27, Last annotation updat
GlpT and glpQ genes for glycerol 3-phosphate perm
glycerophosphoryl diester phosphodiesterase (Frag
Bactllus subtilis
Bacteria; Firmicutes; Bacillales; Bacillaceae; Ba
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  different baculovirus species: Choristoneura fumiferana nucleopolyhedrovirus LEF-3 can complement Autographa cali nucleopolyhedrovirus LEF-3 in supporting DNA replication.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PubMed=14671115; DOI=10.1128/JVI.78.1.329-339.2004; Chen T., Sahri D., Carstens E.B.; "Characterization of the interaction between P143 and LEF-3
                                                                                                                                                             SEQUENCE FROM N.A.
STRAIN=BR95;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Fuji F., Hira
Horikoshi K.;
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Fuji F., Hirama
                                                                                                                                                                                                                                              NCBI_TaxID=1423;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=208973;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nucleopolyhedrovirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Viruses; dsDNA viruses,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Choristoneura fumiferana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mini-cistron protein.
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AF127530; AAF36457.1;
NCE 12 AA; 1252 MW;
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4; Conserv
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5; Conserv
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irama C., Nakamura Y., O
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A; 1252 MW;
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80.0%;
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no RNA stage; Baculoviridae;
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Pred. No. '
1; Mismatch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Created)
Last sequence update)
Last annotation updat
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ce permease and
e (Fragment).
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RESULT 13
FIBA_ERYPI
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FIBA_CERAE
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Best Local S
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Matches 3
                                           ERYPA STANDARD; PRT; 16 Am.
F81BA ERYPA STANDARD; PRT; 16 Am.
P68112; P12803;
01-OCT-1989 (Rel. 12, Created)
01-OCT-1989 (Rel. 12, Last sequence update)
25-OCT-2004 (Rel. 45, Last annotation update)
25-OCT-2004 (Rel. 45, Cast annotation update)
                                                                                                                                                                                                                                                                           PEPTIDE
NON_TER
SEQUENCE
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SEQUENCE FROM
STRAIN=BR95;
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01-OCT-1989 (Rel. 12, Created)
01-OCT-1989 (Rel. 12, Last sequence update)
25-OCT-2004 (Rel. 45, Last annotation update)
           Erythrocebus patas (Red guenon) (Cercopithecus patas).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutel
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae
                                                                                                                                                                                                                                                                                                                                                                                                                                 Blomback B., Blomback M., Grondahl N.J., "Studies on fibrinopeptides from primate: Acta Chem. Scand. 19:1788-1789(1965).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cercopithecus aethiops (Green monkey) (Grivet).

Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutele

Mammalia; Butheria; Primates; Catarrhini; Cercopithecidae;

Cercopithecinae; Cercopithecus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FIBA CERAE
P68111; P12803;
                                                                                                                                                                                                                                                                                                                Blood
                                                                                                                                                                                                                                                                                                                                                                                                         -!- FUNCTION: Fibrinogen has a double function: yielding monome polymerize into fibrin and acting as a cofactor in platelet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Name=FGA
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Cercopithecinae;
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                                                                                                                                                                                                                                                                                          aggregation.

aggregation:

SUBUNIT: Hexamer containing 2 sets of 3 nonidentical chains (alpha, beta and gamma), linked to each other by disulfide the printic conversion of fibrinogen to fibrin is triggered by three which cleaves fibrinopeptides A and B from alpha and beta cleand thus exposes the N-terminal polymerization sites responsion the formation of the soft clot.

for the formation of the soft clot.

cod coagulation; Direct protein sequencing; Plasma.
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3; Conserv
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from primates.";
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                                                                                                                                                                                                                              Score 26; DB pred. No. 6.5e 2; Mismatches
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-I- PTM: Conversion of fibrinogen to fibrin is triggered by thrombin, which cleaves fibrinopeptides A and B from alpha and beta chains, and thus exposes the N-terminal polymerization sites responsible for the formation of the soft clet.

Blood cosgulation; Direct protein sequencing; Plasma.

EPTIDE 1 16 Fibrinopeptide A.
SEQUENCE 16 AA; 1551 MW; 49E8CBB63EA04DD3 CRC64;
                                                                                                                                                                                                                                                                                                                                                               Macaca fascicularis (Crab eating macaque) (Cynomolgus monk
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutele
Mammalla; Eutheria; Primates; Catarrhini; Cercopithecidae;
Cercopithecinae; Macaca.
NCBI TaxID=9541;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    P68109; P12803;
01-OCT-1989 (Rel. 12, Created)
01-OCT-1989 (Rel. 12, Last sequence update)
25-OCT-2004 (Rel. 45, Last annotation update)
Fibringen alpha chain (Contains: Fibrinopeptide
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SEQUENCE
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NON TER
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"Studies on fibrinopeptides from primates.
Acta Chem. Scand. 19:1788-1789 (1965).
-1- PUNCTION: Fibrinogen has a double func polymerize into fibrin and acting as a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nakamura S., Takenaka O., Takahashi K.; "Pibrinopeptides A and B of Japanese monkey (Macaca fuscata) and monkey (Erythrocebus patas): their amino acid sequences, restrict mutations, and a molecular phylogeny for macaques, guenons, and
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Blomback B.,
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SUBUNIT: Hexamer containing 2 sets of 3 nonidentical chains (alpha, beta and gamma), linked to each other by disulfide bonds. PTM: Conversion of fibrinogen to fibrin is triggered by thrombin, which cleaves fibrinopeptides A and B from alpha and beta chains, and thus exposes the N-terminal polymerization sites responsible for the formation of the soft clot.
                                                                                                                                                                                                                                                  aggregation.
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                                                                      Score 26;
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Pred. No. 6.5e+03;
2; Mismatches 4
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RESULT 15
FIBA MACCU STANDARD; PRT; 16 AA.
AC P68108; P12803;
DT 01-OCT-1999 (Rel. 12, Last sequence update)
DT 01-OCT-1999 (Rel. 12, Last sequence update)
DT 25-OCT-2004 (Rel. 45, Last amnotation update)
DE Fibrinogen alpha chain [Contains: Fibrinopeptide A] (Fragment).
Name=FGA;
Name=FGA;
OC Mammalia; Butheria; Primates; Catarriini; Cercopithecidae;
OC Mammalia; Butheria; PubMed=3928610;
RN NCBI TaxID=9543;
RN [1]
RP SEQUENCE.
RY MEDLINE=85289140; PubMed=3928610;
RX Makamura S., Takenaka O., Takhashi K.;
RY "Pibrinopeptides A and B of Japanese monkey (Macaca fuscata) and pate monkey (Erythrocebus patas): their amino acid sequences, restricted mutations, and a molecular phylogeny for macaques, guenons, and baboons."

RT "Pibrinopeptides A and B of Japanese monkey (macaca fuscata) and pate baboons."

CC -:- FUNCTION: Fibrinogen has a double function: yielding monomers the polymerize into fibrin and acting as a cofactor in platelet aggregation.

CC -:- SUBUNIT: Hexamer containing 2 sets of 3 nonidentical chains (alpha, beta and gamma), linked to each other by disulfide bonds (alpha, beta and gamma), linked to each other by disulfide bonds (alpha, beta and gamma), linked to each other by disulfide bonds (alpha, beta and gamma), linked to each other by disulfide bonds (alpha, beta and gamma), linked to each other by disulfide bonds (alpha, beta and gamma), linked to each other by disulfide bonds (alpha, beta and gamma), linked to each other by disulfide bonds (alpha, beta and gamma), linked to each other by disulfide bonds (alpha, beta and gamma), linked to each other by disulfide bonds (alpha, beta and gamma), linked to each other by disulfide bonds (alpha, beta and gamma), linked to each other by disulfide bonds (alpha, beta and gamma), linked to each other by disulfid
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GenCore version (c) 1993 - 2005

5.1.6 Compugen Ltd

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Abr43160 Car	Aap70384 Sec	Ads13223 Hur	-	Ads13393 Hur	Adr15970 Tra	Adr15909 Tr	Abu04139 Hur	Aaw07622 LDI	Abu04138 Hur	Aau32831 No	Aaw07621 LDI	Adp21259 Hui	Ad124412 Hui	Adl70731 Hur	Adk15868 Hui	Adh89359 Hui	Adh34559 Hui	Adf74800 Hui	Adf74796 Hur
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### ALIGNMENTS

#### RESULT 1 ADG46077 (DADE-) DADE BEHRING MARBURG GMBH 05-JUL-2002; 2002DE-01030550 19-MAY-2003; 2003EP-00011334. 07-JAN-2004. EP1378521-A1. Homo sapiens. antibody; carbohydrate-deficient transferrin; CDT; non-glycosylated transferrin; alcoholism; alcoholic; Human CDT peptide 25-MAR-2004 ADG46077; ADG46077 standard; peptide; (first fragment entry) 15 Ş diagnosis; human

This invention describes a novel antibody that, in aqueous solution, binds selectively to carbohydrate-deficient transferrin (CDT) without having to bind CDT to a solid phase. The invention also describes an antibody that binds selectively to CDT at regions containing the sequences VVARSMGGKEDLIWELL, TTEDSIAKIMNGEADAMSLDGGF, SKLSMGSGLNLSEPN a VEKYLGESYVKAV (ADG46075-ADG46078) and an immunoassay for detecting CDT using the antibodies of the invention. The antibodies of the invention are monoclonal, specifically from hybridomas DSM ACC2540 or 2541. The antibodies are obtained by immunisation with non-glycosylated transferrin, or a fragment, then generation of hybridomas by standard fusion of spleen and myeloma cells. Hybridomas are then selected for production of antibodies that specifically bind CDT from the aqueous phase. The antibodies are useful for diagnosis of alcoholism, CDT, whic

and

which

New antibody specific fo diagnosis of alcoholism,

for carbohydrate-deficient transferrin, useful for sm, can bind its target in solution, eliminating

WPI; 2004-073743/08.

Althaus H

need

for immobilization.

Claim 4; SEQ ID NO 3; 21pp;

German.

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RESULT 2
ADG46094
                This invention describes a novel antibody that, in aqueous solution, binds selectively to carbohydrate-deficient transferrin (CDT) without having to bind CDT to a solid phase. The invention also describes an antibody that binds selectively to CDT at regions containing the sequences VVARSMGGKEDLIWELL, TIEDSIAKINMSEADAMSLIGGF, SKLSWGSGLMLSEPN and YERYIGEEYVKAV (ADG46075-ADG46078) and an immunoassay for detecting CDT using the antibodies of the invention. The antibodies of the invention are monoclonal, specifically from hybridomas DSM ACC2540 or 2541. The antibodies are obtained by immunisation with non-glycosylated fusion of spleen and myeloma cells. Hybridomas are then selected for production of spleen and myeloma cells. Hybridomas are then selected for production of antibodies that specifically bind CDT from the aqueous phase. The antibodies that specifically bind CDT from the aqueous alcoholics. The antibodies are useful for diagnosis of alcoholism, CDT, which alcoholics. The antibodies are useful for diagnosis of alcoholism. CDT, which calcoholics. The antibodies are useful for diagnosis of alcoholism. CDT, which the need for immobilising it on a solid phase (as required when using known antibodies). ADG46075 ABG46094 represent CDT peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 7; Page 15; 21pp; German
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New antibody specific for carbohydrate-deficient transferrin, useful for diagnosis of alcoholism, can bind its target in solution, eliminating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19-MAY-2003; 2003EP-00011334
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        antibody; carbohydrate-deficient transferrin; CDT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25-MAR-2004
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fragments used
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             for immobilization.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          transferrin; alcoholism; alcoholic; diagnosis; human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        fragment
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method of
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
invention
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
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Sequence 13

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Query Match
Best Local S
Matches 12
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Best Local S
Matches 13
                                                                                                                                               This invention relates to a novel fusion protein which comprises a transferrin protein exhibiting reduced glycosylation fused to at least one antibody variable region. The invention may be useful for the development of compounds with cytostatic, antibacterial, virucide, antiparasitic, immunosuppressive or antiarthritic activity. In addition, the sequences disclosed may be useful for gene therapy. The fusion protein is useful for preparing a composition for treating a disease or disease symptom in a patient for example septic shock, endotoxic shock, cachesia syndromes associated with bacterial, viral or parasitic
                                                                                                                                                                                                                                                                                                                                                 New fusion protein comprising a transferrin protein exhibiting reduced glycosylation fused to at least one antibody variable region, useful figreparing a composition for treating e.g., septic shock, neoplasm or
                                                             Sequence
                                                                                        infections, neoplasm, autoimmune disease, arthritis or adverse effects associated with treatment for preventing graft rejection. The present sequence is that of a domain of the human transferrin protein which was used in the exemplification of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30-AUG-2001; 2001US-0315745P.
30-NOV-2001; 2001US-0334055P.
30-AUG-2002; 2002US-00231494.
30-AUG-2002; 2002US-0406977P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  viral infection; parasitic infecti
arthritis; graft rejection; human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                antiparasitic; immunosuppressive; antiarthritic; gene therapy;
septic shock; endotoxic shock; cachexia syndrome; bacterial infection;
                                                                                                                                                                                                                                                                                                     Example 2; SEQ ID NO 36; 82pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2004-022093/02.
                                                                                                                                                                                                                                                                                                                                                                                                                                           Sadeghi H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             04-DEC-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human transferrin protein domain SeqID36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15-APR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADH89392;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADH89392 standard;
                                                                                                                                                                                                                                                                                                                                      autoimmune disease.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US2003226155-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          fusion protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (BIOR-) BIOREXIS PHARM CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               antibody
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity 100.
13; Conservative
               Similarity
                                                             42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              variable region; cytostatic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LSMGSGLNLSEPN 13
                                                             A,
                                                                                                                                                                                                                                                                                                                                                                                                                                            Prior CP,
   Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              transferrin protein; glycosylation;
le region; cytostatic; antibacterial; virucide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               87.8%; 500
100.0%; Pr
                 81.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                           Turner
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   $; Score 65; DB
$; Pred. No. 0.0
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  infection; neoplasm; autoimmune disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    42
                 Score 60;
Pred. No.
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    Mismatches
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                  0
                 DB 8;
0.0035;
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                             Length 42;
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30-NOV-2001;
30-AUG-2002;
30-AUG-2002;
                                                                                                                                                                                                                                                                                       The invention comprises a fusion protein that contains a modified transferrin (Tf) protein fused to a therapeutic protein/peptide (e.g. beta-interferon - IFN, glucagona-like peptide - GD-1, erythropoietin mimetic peptide - EMP1, T-20 and soluble toxin receptor). The fusion protein of the invention is useful for epitope tagging. The present amino acid sequence represents a fragment of the human Tf protein.
Human; transferrin; autoimmune disease; rheumatoid arthritis; hyperproliferative disorder; neoplasm; cardiovascular disorder; cardiac arrest; cerebrovascular disorder; cerebral ischemia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       fusion protein; transferrin; Tf; beta-interferon; beta-IFN; glucagons-like peptide; GLP-1; erythropoietin mimetic peptide; T-20; soluble toxin receptor; epitope tagging; human.
                                                                                                                                                                                                                                                                                                                                                                                               New fusion protein comprising a modified transferrin (Tf) protein fused to a therapeutic protein or peptide, useful for epitope tagging.
                                              Amino acid
                                                                     22-AUG-2001
                                                                                                                 AAB84371 standard;
                                                                                                                                                                                                                                                                  Sequence 42
                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2004-010899/01.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADK15881 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (BIOR-) BIOREXIS PHARM CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sapiens.
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                                                                                                                                                                         25
                                                                                                                                                                                                                      12;
                                                                                                                                                                                               N
                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                      KLSMGSGLNLSEPN 15
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                                                                                                                                                                         KLCMGSGLNLCEPN
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lai
                                             sequence
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                                                                                                                                                                                                                      Conservative
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2002US-00231494.
2002US-0406977P.
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                                                                    (first
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                                                                                                               protein; 328
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sadeghi H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein;
                                             of a human
                                                                    entry)
                                                                                                                                                                                                                               81.1%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                        15; 70pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           42
                                                                                                                                                                                                                  Score 60; DB 8;
Pred. No. 0.0035;
0; Mismatches
                                              transferrin.
                                                                                                                                                                                                                                                                                                                                                                         English.
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                                                                                                                                                                                                                                          Length 42;
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                                                                                                                                                                                                                      Gaps
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CC Transferrin polypeptides and polynucleotides are used to prevent, treat CC or ameliorate a medical condition in e.g. humans, mice, rabbits, goats, CC horses, cats, dogs, chickens or sheep. Disorders which are diagnosed or treated include autoimmune diseases e.g. rheumatoid arthritis, CC hyperproliferative disorders e.g. neoplasms of the breast or liver, CC hyperproliferative disorders e.g. neoplasms of the breast or liver, CC cardiovascular disorders e.g. cardiac arrest, cerebrovascular disorders e.g. cardiac arrest, cerebrovascular disorders e.g. CC e.g. cerebral ischemia, angiogenesis, nervous system disorders e.g. CC Alzheimer's disease, infections caused by bacteria, viruses and fungi and CC ocular disorders e.g. corneal infection. The polypeptides can also be used to aid wound healing and epithelial cell proliferation, to prevent CC supporting cell culture of primary tissues, to regenerate tissues and in CC chemotaxis. The polypeptides can also be used as a food additive or CC preservative to increase or decrease storage capabilities
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
     antiarteriosclerotic; antiasthmatic; immunosuppressive; antityroid; hepatotropic; dermatological; antidiabetic; nephrotropic; antipyroid; thyromimetic; neuroprotective; osteopathic; antipritic; uropathic; antirheumatic; haemostatic; antipsoriatic; ophthalmological; virucide; antirheumatic; haemostatic; antibacterial; protozoacida. funcicial; gene therany.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        angiogenesis; nervous system disorder; Alzheimer's disease; infection; ocular disorder; corneal infection; wound healing; epithelial cell proliferation; aging; organ transplant.
  gene
                                                                                                                                                                                             MEPR; metalloprotein; anti-HIV; antiallergic; antiinflammatory; human;
                                                                                                                                                                                                                                                                                                           06-NOV-2003
                                                                                                                                                                                                                                                                                                                                                                                                                    ABR82321 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 328 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 11; Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Isolated nucleic acid molecule encoding a human tranferrin protein used in preventing, treating or ameliorating a medical condition.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21-DEC-2000; 2000WO-US034769
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               23-DEC-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local
cnerapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            179
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                disorder; corneal intection; wound ......lial cell proliferation; aging; organ transplant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     l Similarity
12; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KLSMGSGLNLSEPN 15
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  transgenic
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                                                                                                                                                                                                                                                                                                           entry)
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85.7%;
                                                                                                                                                                                                                                                    (MEPR)
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Pred. No. 0.
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0.035;
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RESULT 7
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Best Local S
Matches 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  vera, poorlasis, primary thromobocytopenia or cancer), developmental disorders (e.g. renal tubular acidosis, anemia or mental retardation), neurological disorders (e.g. Alzheimer's disease, Parkinson's disease or epilepsy), autoimmune/inflammatory disorders (e.g. AlDS, allergies, althma, autoimmune/inflammatory disorders (e.g. AlDS, allergies, autoimmune/inflammatory disorders (e.g. AlDS, allergies, autoimmune/inflammatory disorders), contact dermatitis, Goodpasture's syndrome, gout, Graves' disease, Hashimoto's thyroiditis, irritable bowel syndrome, multiple sclerosis, osteoarthritis, osteoporosis, pancreatitis, Relter's syndrome, rheumatoid arthritis, Sjogren's syndrome, uveitis), or viral, bacterial, fungal, parasitic, protozoan or helminthic infections. The polynocleotides encoding MEPR are useful for creating transgenic animals to model human disease. Sequences ABR82316-323 represent the human MEPR polypeptides of the invention
                Homo sapiens
                                                       gene therapy; human diagnostic and therapeutic polynucleotide; dithp
                                                                                        Human diagnostic and therapeutic pprotein SEQ ID NO:4031.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  polynuclectides. The human MEPR polypeptides, polynuclectides and modulators are useful for diagnosing, treating or preventing disorders associated with aberrant expression of MEPR, particularly cell proliferative disorders (e.g. arteriosclerosis, atherosclerosis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New human metalloproteins and polynucleotides, useful for diagnosing, treating or preventing autoimmune or inflammatory disorders (e.g. AIDS, allergy or anemia), multiple sclerosis, osteoarthritis, cancer or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2003-598523/56.
N-PSDB; ACF35812.
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18-JAN-2002; 2002US-0350701P.
19-MAR-2002; 2002US-0366059P.
10-MAY-2002; 2002US-0379907P.
                                                                                                                                     18-NOV-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 575
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The invention relates to novel human metalloproteins (MEPR) and encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 1; Page 146-148; 153pp; English
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                                                                                                                                                                                                             ABM83782 standard; protein; 609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cirrhosis, hepatitis, paroxysmal nocturnal hemoglobinuria, polycythemia
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4, Chien D,
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Jin P,
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Pred. No. 0.065;
0; Mismatches
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Chawla NK, Yue H, Khare R,
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RESULT 8
ABM83781
ID ABM8
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AC ABM8
XX
DT 18-N
XX
DE Huma
XX
KW Gene
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KW Gene
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Homc
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Homc
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PN W02(
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Peralta CH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New diagnostic and therapeutic polynucleotides and polypeptides, useful in diagnosing a condition, disease or disorder associated with human molecules, e.g. autoimmune or inflammatory disorders, in gene therapy or
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N-PSDB; ACN42434.
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                                                                                                                                                                         gene therapy;
                                                                                                                                                                                                                                                                Human diagnostic and therapeutic pprotein SEQ ID NO:4030
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Mooney EM, Del
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12-SEP-2002;
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Blanchard JL, Panzer SR, Wang X, Au AP, Gerstin
Anderson SB, Rioux P, Shen EJ, Wu MC, Stuve LL;
Spiro PA, Stewart EA, Wingrove J, Vitt UA, Kirton
Spiro PA, Stewart EA, Wingrove J, Vitt UA, Kirton
Spiro PA, Stewart EA, Wingrove J, Vitt UA, Kirton
Spiro PA, Stewart EA, Wingrove J, Vitt UA, Kirton
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Wright RJ, Bruns CM, Marjanovic MM, Shen r;
Wright RJ, Bruns CM, Marjanovic MM, Shen r;
TA, Suchorolski MT, Altus CM, Pitts SJ, Elder LV;
TA, Suchorolski MT, Altus CM, Pitts SJ, Reddy TP;
TA, Suchorolski MT, Altus CM, Gerstin Rd, Gersti
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2002US-0410260P
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                                                                                                                                                                         human diagnostic and therapeutic polynucleotide; dithp.
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85.7%;
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Pred. No.
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RESULT 9
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Harthshorne TA, Suchorolski MT, Altus CM, Pitts SJ, Elder LV;
Mooney EM, Delegeane AM, Panesar IS, Banville SC, Reddy TP;
Stevens KA, Blanchard JL, Panzer SR, Wang X, Au AP, Gerstin EH;
Peralta CH, Anderson SB, Rioux P, Shen EJ, Wu MC, Stuve LL;
Lagace RE, Spiro PA, Stewart EA, Wingrove J, Vitt UA, Kirton ES;
Xu Y, Kwong M, Policky JL, Hurwitz BL, Ma Y, Jackson JL, Gietze
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to novel diagnostic and therapeutic polynucleotides selected from one of the 2722 sequences defined in the specification. A polynucleotide of the invention may have a use in gene therapy. The human diagnostic and therapeutic polynucleotides (dithp) or polypeptides may be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New diagnostic and therapeutic polynucleotides and polypeptides, useful in diagnosing a condition, disease or disorder associated with human molecules, e.g. autoimmune or inflammatory disorders, in gene therapy or
                  WO2004023973-A2
                                                     Homo sapiens
                                                                                                                         Human diagnostic
                                                                                                                                                             18-NOV-2004
                                                                                                                                                                                                                                 ABM83779 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 27; Page; 190pp; English
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S, Shi X,
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, Suarez CJ;
                                                                                                                         and therapeutic pprotein SEQ ID NO:4028
                                                                                                                                                                                                                                 protein; 628
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85.7%;
                                                                                     diagnostic and therapeutic polynucleotide; dithp
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RESULT 10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Harthum, Describer Harthum, Mooney EM, Describer Landerson SB, Riound Peralta CH, Anderson SB, Riound Research B, Spiro PA, Stewart B, Policky JL, Hy Sharez CJ;
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Best Local :
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                                                                                           gene therapy; human diagnostic and therapeutic polynucleotide;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 628 AA;
                                                                                                                         Human diagnostic and therapeutic pprotein SEQ ID NO:4027.
                                                                                                                                                           18-NOV-2004
                                                                                                                                                                                           ABM83778;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 27;
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                                                                                                                                                                                                                          ABM83778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          in gene mapping.
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Blanchard JL, Panzer SR, Wang X, Au AP, Gerst
Anderson SB, Rioux P, Shen EJ, Wu MC, Stuvel
Spiro PA, Stewart EA, Wingrove J, Vitt UA, Kir
SM, Policky JL, Hurwitz BL, Ma Y, Jackson JL,
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Suchorolski MT, Altus CM,
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85.7%;
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Pitts SJ, bau;
Pitts SJ, Bau;
Reddy TP;
Rersti
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WO2004023973-A2

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RESULT 11
ABM83783
ID ABM83783
XX ABM83
XX ABM83
XX ABM83
XX HUM81
XX HUM81
XX HUM81
XX HUM81
XX HOMO
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                 Ното варіеля
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          used to diagnose a particular condition, disease or disorder associated with human molecules, e.g. cell proliferative disorders, autoimmune/inflammatory disorder, developmental disorder, endocrine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The invention relates to novel diagnostic and therapeutic polynucleotides selected from one of the 2722 sequences defined in the specification. A polynucleotide of the invention may have a use in gene therapy. The human diagnostic and therapeutic polynucleotides (dithp) or polypeptides may be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New diagnostic and therapeutic polynucleotides and polypeptides, useful in diagnosing a condition, disease or disorder associated with human molecules, e.g. autoimmune or inflammatory disorders, in gene therapy o
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                                                 WO2004023973-A2
                                                                                                                                                    Human
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12-SEP-2002;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gene mapping
                                                                                                               therapy;
                                                                                                                                                                                                                                                                                                                                        478
                                                                                                                                                diagnostic and therapeutic pprotein SEQ ID NO:4032.
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                                                                                                                  human
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                                                                                                                diagnostic
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85.7%;
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Pred. No.
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                                                                                                               therapeutic polynucleotide; dithp
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UA, Kirton ES;
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RESULT 12
AAU02938
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XX Angio
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XX Gellu
KW Granu
KW Vasoa
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Best Local
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              Angiotensin converting enzyme splice variant; ACEV; interleukin 6; granulocyte colony stimulating factor receptor; glucagon, hypertrophy; platelet-derived endothelial cell growth factor; cardiovascular disease; cellular tumour antigen P53; cyclin-dependent kinase inhibitor IC; vasoactive intestinal polypeptide receptor 2; arteriosclerosis; cancer; myocardial infarction; coronary arterial thrombosis; renal disease; diabetic nephropathy; muscular disease; immune disorder; sarcoidosis; multiple sclerosis; immune complex nephritis; deep vein thrombosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New diagnostic and therapeutic polynucleotides and polypeptides, useful in diagnosing a condition, disease or disorder associated with human molecules, e.g. autoimmune or inflammatory disorders, in gene therapy or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 645
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12-SEP-2002; 2002US-0410260P.
                                                                                                                                                                                                    Angiotensin
                                                                                                                                                                                                                                                                                                                      AAU02938 standard;
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                                                                                                                                                                                                  converting enzyme (ACEV) splice variant protein
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A
                                                                                                                                                                                                                                                                                                                      protein; 646
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85.7%;
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Pred. No.
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Pitts SJ, Ext.
Pville SC, Reddy TP;
ville SC, AP, Gerstin E/
T.L;
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RESULT 13
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ID ABM80
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XX ABM80
XX Humar
XX Humar
XX Gene
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XX Homo
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Best Local S
Matches 12
   12-SEP-2003; 2003WO-US028227.
                                                            25-MAR-2004
                                                                                                                  WO2004023973-A2
                                                                                                                                                                                                                            gene therapy;
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                                                                                                                                                                                                                                                                                     Human diagnostic and therapeutic pprotein SEQ ID NO:4029.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17-NOV-1999;
10-DEC-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2001-336004/35.
)B; AAS06038.
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12; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      38; 519pp; English.
                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                               human diagnostic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99IL-00132978
99IL-00133455
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Khosravi
                                                                                                                                                                                                                            and therapeutic polynucleotide; dithp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 4;
0.075;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  anti-variant antibodies
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                        Angiotensin converting enzyme splice variant; ACEV; interleukin 6; granulocyte colony stimulating factor receptor; glucagon; hypertrophy; platelet-derived endothelial cell growth factor; cardiovascular disease, cellular tumour antigen P53; cyclin-dependent kinase inhibitor 1C; vasoactive intestinal polypeptide receptor 2; arteriosclerosis; cancer; myocardial infarction; coronary arterial thrombosis; renal disease; diabetic nephropathy; muscular disease; immune disorder; sarcoidosis; multiple sclerosis; immune complex nephritis; deep vein thrombosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mooney EM,
Stevens KA,
Peralta CH,
               nonarcoidotic pulmonary granulomatous
                                                                                                                                                                                             Angiotensin
                                                                                                                                                                                                                                                                   AAU02937;
                                                                                                                                                                                                                                                                                                 AAU02937 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 646 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           in diagnosing a condition, molecules, e.g. autoimmune
                                                                                                                                                                                                                                 12-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Schmidt JP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12-SEP-2002;
12-SEP-2002;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gene mapping.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          diagnostic and therapeutic polynucleotides and polypeptides, useful diagnosing a condition, disease or disorder associated with human ecules, e.g. autoimmune or inflammatory disorders, in gene therapy o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WIPO at
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DB; ACN42432.
                                                                                                                                                                                                                                                                                                                                                                                             463
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                                                                                                                                                                                                                                                                                                                                                                                                                                 N
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Delegeane AM, Panesar IS, Banville SC, Redd
Blanchard JL, Panzer SR, Wang X, Au AP, G
Anderson SB, Rioux P, Shen EJ, Wu MC, Stu
Spiro PA, Stewart EA, Wingrove J, Vitt UA,
GM, Policky JL, Hurwitz BL, Ma Y, Jackson
                                                                                                                                                                                           converting enzyme (ACEV) splice variant protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              www.wipo.int/pct/en/sequences/listing.htm
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2002US-0410260P
                                                                                                                                                                                                                               (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               yht RJ, Bruns CM, Marj
Suchorolski MT, Altus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     81.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       English
                                                                                                                                                                                                                                                                                                     665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   <u>,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 60; DB 8; Pred. No. 0.075; 0; Mismatches
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               disease; endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      janovic Mr., Ditts SJ, Barry, Pitts SC, Reddy TP;
SC, Reddy TP;
AP, Gerstin EH;
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               abnormality;
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                                                                                                                                                                                             #37.
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                                                                                                                        disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
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RESULT 15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The sequence represents an angiotensin converting enzyme splice variant CC (ACEV) polypeptide. The polypeptides of the invention include variants of CG granulocyte colony stimulating factor receptor, glucagon, interleukin 6, CC platelet derived endothelial cell growth factor, cyclin-dependent kinase cinhibitor 1C, cellular tumour antigen PS3, and vasoactive intestinal CC polypeptide receptor 2. The polypeptides and their associated nucleic CC acids are useful for identification of variant sequences and detection of CC candidate compounds capable of binding the molecules. The sequences of CC the invention can be used in the treatment and diagnosis of various CC endoters including cardiovascular diseases such as arteriosclerosis, CC myocardial infarction and coronary arterial thrombosis, renal diseases combones disorders such as immune complex nephritis, multiple sclerosis, CC cancer, sarcoidosis, nonarcoidotic pulmonary granulomatous diseases such as absestosis and vascular pathologies involving an endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Novel alternative splicing variants e.g. variant of angiotensin converting enzyme (ACEV), useful in identifying candidate compounds capable of binding to the variant and to detect anti-variant antibodies.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                       gynaecological; immunostimulant; antianaemic; haemostatic; antiparasitic; antinflammatory; dermatological; antibacterial; virucide; antiparasitic; fungicide; hepatotropic; antirheumatic; antiarthritic; antigout; tranquillizer; vulnerary; antidiabetic; nephrotropic; antipyretic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     17-NOV-1999;
10-DEC-1999;
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      Homo
                                                        gastrointestinal; gene therapy; transgenic
                                                                                                                                                                                                          cytostatic;
                                                                                                                                                                                                                                      Human; transferrin; neuroprotective; cerebroprotective; vasotropic; antiparkinsonian; nootropic; anti-HIV; antiasthmatic; antiallergic;
                                                                                                                                                                                                                                                                                                                                                                                            11-AUG-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABP72820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABP72820 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 665 AA;
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                                                                                                                                                                                                          immunosuppressive; antiatherosclerotic; cardiant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
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99IL-00133455
                                                                                                                                                                                                                                                                                                                                (mature polypeptide).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein; 679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              81.1%;
85.7%;
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Pred. No. 0.077;
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                                        WPI; 2003-332916/31.
                                                      Prior
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30-NOV-2001;
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2001US-0334059P
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New fusion protein, useful in the diagnosis and treatment of diseases or disorders relating to the respiratory, cardiovascular and digestive systems, comprises a transferrin protein fused to a therapeutic protein.

Disclosure; Page 280-281; 298pp; English.

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The present sequence is the protein sequence of human transferrin (Tf), CC minus the signal peptide. The invention relates to modified Tf fusion CC proteins comprising at least one therapeutic protein, polypeptide or CC peptide, in which the Tf portion is engineered to extend the serum half-CI life or bioavailability of the molecule. The modified Tf fusion protein CC preferably comprises a human Tf molety that has been modified to reduce CC or prevent glycosylation, iron binding and/or transferrin receptor CC saddition in the hinge region, or at residues Asp-33, Gly-65, Tyr-95, Tyr-95, Tyr-188, Lys-206, His-207, His-249, Asp-332, Tyr-426, Tyr-514, Tyr-514, Tyr-514, Tyr-514, Tyr-514, Tyr-514, Tyr-515, Tyr-95, 
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496 KLCMGSGLNLCEPN 509
                                                                                    2 KLSMGSGLNLSEPN 15
                                                                                                                                                                                                                                          81.1%; Score 60; DB 6; Length 679;
85.7%; Pred. No. 0.079;
tive 0; Mismatches 2; Indels
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Search completed: November 1, 2005, 12:48:53 Job time: 86.8088 secs 8 Ś Query Match Best Local Similarity Matches 12; Conservative

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1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*

2: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*

3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*

4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*

5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*

6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*
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Copyright (c) 1993 - 2005 Compugen Ltd
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US-08-683-262B-39
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US-09-439-740-2

US-09-470-058-2

US-09-037-188-2

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Sequence 50, Appl
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Sequence 49, Appl
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Sequence 42, Appl
Sequence 43, Appl
Sequence 44, Appl
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                                        Query Match
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                          Matches
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Similarity 85.7%;
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	nce 7	N :	Sequence 48,	•	46,	45,	44,	43,	42,	39,	38,	48,	48,	48,	47,	46,	Sequence 45,
	Αp	5204096	5204096	Appl	Appl	App1	App1	App1	Appl	Appl	Appl	Appl	Appl	App1	App1	App1	Appl

# US-08-1... Sequence 2, App... Patent No. 5986667 Patent No. 598667 GENERAL INFORMATION: APPLICANT: FUNK, Walter D. APPLICANT: MACGILLIVRAY, ROSS T.A. APPLICANT: MACGILLIVRAY, ROSS T.A. APPLICANT: MODDWORTH, ROBERT C. TITLE OF INVENTION: RECOMBINANT TRANSFERRINS, TRANSFERRIN HALF TITLE OF INVENTION: MOLECULES AND MUTANTS THEREOF NUMBER OF SEQUENCES: 7 CORRESPONDENCE ADDRESS: ADDRESSE: LAHIVE & COCKFIELD STREET: 60 State Street, Suite 510 ZIP: 02109 ZIP: 02109 ZIP: 02109 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: ASCII text CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/175,158A FILING DATE: 28-DEC-1993 CLASSIFICATION DATA: APPLICATION NUMBER: US 07/832,029 PRIOR APPLICATION DATA: APPLICATION NUMBER: US 07/832,029 PRIOR APPLICATION INFORMATION: NAME: DeConti, Giulio A. REGISTRATION NUMBER: UVI-005CP2 TELEPHONE: (617) 227-7400 TELEPHONE: (617) 227-7400 TELEPAX: (617) 227-5941 INFORMATION FOR SEQ ID NO: 2: SEQUENCE CHARACTERISTICS: LENGTH: 698 amino acids TYPE: amino acid TOPOLOGY: linear MOLECULE TYPE: protein

22222211111111109

Conservative

Score 60; DB 2; Pred. No. 0.018; 0; Mismatches

Length 698; Indels

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Gaps

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KLSMGSGLNLSEPN 15

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US-09-439-740-2
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GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                          Query Match
                                         GENERAL INFORMATION:
APPLICANT: Heartlein, Michael W.
APPLICANT: Lemontt, Jeffrey F.
TITLE OF INVENTION: Chimeric Proteins For Use in Transport
TITLE OF INVENTION: of a Selected Substance Into Cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
NAME: DeConti, Giulio A.
REGISTRATION NUMBER: 31,503
REFERENCE/DOCKET NUMBER: UVI-
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 698 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
                 NUMBER OF SEQUENCES: 1
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ADDRESSEE: LAHIVE & COCKFIELD
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                                                                                                                                                                                                                                                                                                          Local Similarity 85.7
nes 12; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: FILING DATE:
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OGY: linear
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MacGILLIVRAY, Ross T.A.
MASON, Anne B.
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Hamilton, Brook, Smith & Reynolds, P.C.
                                                                                                                                                                                                                                                                                                                        81.1%;
85.7%;
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Pred. No. 0.018;
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CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/08/470,058
FILING DATE: 06-UN-1995
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Granahan, Patricia
REGISTRATION NUMBER: 32,227
REFERENCE/DOCKET NUMBER: TKT93-01
TELEPHONE: 617-661-6240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sequence 2, Application US/09037188
Patent No. 6027921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Patent No. 6027921
GENERAL INFORMATION:
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              APPLICATION NUMBER:
FILING DATE: 06-JUN-1995
ATTORNEY/AGENT INFORMATION:
NAME: Fraser, Ph.D., J.D., Ja
REGISTRATION NUMBER: 34,819
REFERENCE/DOCKET NUMBER: 0723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: 617-861-9540 INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                               ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                    APPLICATION NUMBER: US/09/037,188 FILING DATE: 02-MAR-1998 PRIOR APPLICATION DATA:
                                                                                                                                                                     COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows95
SOFTWARE: FastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Heartlein, Michael | APPLICANT: Lemontt, Jeffrey F. APPLICANT: Concino, Michael F.
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MEDIUM TYPE: Floppy disk
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ADDRESSEE: Fish & Richardson P.C.
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TELECOMMUNICATION INFORMATION:
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STREET: L-
STREET: MA
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CITY: Lexington
STATE: MA
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STRANDEDNESS: unl
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OPERATING SYSTEM: PC-DOS/MS-DOS
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85.7%;
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IN TRANSPORT OF A SELECTED SUBSTANCE INTO CELLS
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Pred. No.
                  07236/009002
                                                  Janis K.
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                                                                                                                       ; MOLECULE TYPE: protein US-09-285-310-2
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                                                                                                                                                                  INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 1074 smin
                                                           Matches
                                                                                        Query Match
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Best Local Similarity 85.7%;
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                                                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION:
NAME: Fraeer, Ph.D., J.D., Ja
REGISTRATION NUMBER: 34,819
REFERENCE/DOCKET NUMBER: 0723
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617/542-5970
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                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows95
SOFTWARE: FastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/285,310
PILING DATE:
PILING DATE:
                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
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ADDRESSEE: Fish & Richardson P.C.
STREET: 225 Franklin Street
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LENGTH: 1074 amino acids
TYPE: amino acid
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Heartlein, Michael W. APPLICANT: Lemontt, Jeffrey F. APPLICANT: Concino, Michael F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES:
                                                                                                                                                     TOPOLOGY:
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                                                         l Similarity
12; Conserv
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)GY: unknown
KLCMGSGLNLCEPN 904
                           KLSMGSGLNLSEPN 15
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                                                           Conservative
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                                                                        81.1%;
85.7%;
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                                                      Score 60; DB 3;
Pred. No. 0.029;
0; Mismatches
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                                                                                                                                                                                                                                                                                                                      Janie K.
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                                                                                      Length 1074;
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US-09-037-188-4
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US-08-470-058-4
                                                                                                                                                                                                                                                                                     Sequence 4, Application US/09037188
Patent No. 6027921
GENERAL INFORMATION:
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Best Local Similarity 85.7%;
Matches 12; Conservative
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
APPLICANT: Heartlein, Michael W.
APPLICANT: Lemontt, Jeffrey F.
TITLE OF INVENTION: Chimeric Proteins For Use in Transport
TITLE OF INVENTION: of a Selected Substance Into Cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/08/470
FILING DATE: 06-UN-1995
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Granahan, Patricia
REGISTRATION NUMBER: 32,227
REFERENCE/DOCKET NUMBER: TKT9
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617-861-6240
                                                                                                                                                    APPLICANT: Heartieth, ....
APPLICANT: Lemontt, Jeffrey F.
APPLICANT: Concino, Michael F.
TITLE OF INVENTION: CHIMERIC PROTEINS FOR USE
TITLE OF INVENTION: IN TRANSPORT OF A SELECTED SUBSTANCE INTO CELLS
                  C11.
STATE: "USA
COUNTRY: USA
"TD: 02110-2804
"DEADABLE F
                 COMPUTER READABLE FORM: MEDIUM TYPE: Diskette
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CITY: Lexington
CTATE: MA
                                                                                                                                          CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson P.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
ADDRESSEE: Hamilton, Brook
STREET: Two Militia Drive
                                                                                     STREET: STREET: Boston
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STRANDEDNESS: un
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COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                         225 Franklin Street
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IBM Compatible
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Pred. No. 0.04;
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TELEFAX: 61//-
TELEFAX: 200154
TELEX: 200154
INFORMATION FOR SEQ ID NO: 4:
PROPRIENCE CHARACTERISTICS:
1410 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 81.1%;
Best Local Similarity 85.7%;
Matches 12; Conservative
                                                                                                  FILING DATE:
ATTORNEY/AGENT INFORMATION:
ANAME: FTABET, Ph.D., J.D., Janis K.
NAME: TABET, Ph.D., J.D., Janis K.
REGISTRATION NUMBER: 34,819
REFERENCE/DOCKET NUMBER: 07236/009002
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617/542-5070
TELEPAX: 617/542-8906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
APPLICANT: Heartlein, Michael W.
APPLICANT: Lemontt, Jeffrey F.
APPLICANT: Concino, Michael F.
APPLICANT: CONCINO, MICHAEL F.
TITLE OF INVENTION: CHIMERIC PROTEINS FOR USE
TITLE OF INVENTION: IN TRANSPORT OF A SELECTED SUBSTANCE INTO CELLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEX: 200154
INFORMATION FOR SEQ ID NO: 4.
SEQUENCE CHARACTERISTICS:
LENGTH: 1410 amino acids
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ATTORNEY/AGENT INFORMATION:
NAME: Fraser, Ph.D., J.D., J
REGISTRATION NUMBER: 34,819
REFERENCE/DOCKET NUMBER: 072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OPERATING SYSTEM: Windows95
SOFTWARE: FASTSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/037,188
FILING DATE: 02-MAR-1998
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES: 12
NUMBER OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson P.C.
                                                                                                                                                                                                                                                                                                                                                    OPERATING SYSTEM: Windows95
SOFTWARE: FastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
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TELEPHONE: 617/542-5070
TELEPAX: 617/542-8906
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MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET: 225 F
CITY: Boston
STATE: MA
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ZIP: 02110-2804
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Pred. No. 0.04;
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5262177-4
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                                                                                                                                                                                                                                            APPLICANT: BROWN, J OSEPH P.; ESTIN, CHARLES D.; PLOWMAN, GREGORY
D.; HELLSTROM, KARL E.; ROSE, TIMOTHY M.; HELLSTROM, INGEGERD;
PURCHIO, ANTHONY F.; HU, SHIU-LOK; PENNATHUR, SRIDHAR
TITLE OF INVENTION: RECOMBINANT VIRUSES ENCODING THE HHUMAN
MELANOMA-ASSOCIATED ANTICEN
NUMBER OF SEQUENCES: 6
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5262177-4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: BROWN, J OSEPH P.; ESTIN, CHARLES D.; PLOWMAN, GREGORY D.; HELLSTROM, KARL E.; ROSE, TIMOTHY M.; HELLSTROM, INGEGERD; PURCHIO, ANTHONY F.; HU, SHIU-LOK; PENNATHUR, SRIDHAR TITLE OF INVENTION: RECOMBINANT VIRUSES ENCODING THE HHUMAN
                                                                                                                        5262177-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Patent No.
                                                                                                                                                                                                                                                                                                                                                        Patent No. 5262177
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                                                                                                                                                     SEQ ID NO:4:
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Best Local Similarity 85.7
Matches 12; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                             Matches
                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
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FILING DATE: 27-JAN-1987
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 827,313
                                                                                                                                                                                                  APPLICATION NUMBER: US/
FILING DATE: 27-JAN-1987
PRIOR APPLICATION DATA:
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TOPOLOGY: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 07-FEB-1986
                                                                                                                                                                    APPLICATION NUMBER: 827,313 FILING DATE: 07-FEB-1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 696
                                                                                                                                       LENGTH: 696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NO:4:
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                    2 KLSMGSGLNLSEPN 15
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                                                             Similarity 78.0
11; Conservative
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   KLCMPSGLNLCEPN
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78.6%;
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85.7%;
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78.6%;
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Pred. No.
                                                             Score 52; DB
Pred. No. 0.5;
0; Mismatches
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RESULT 11 US-09-248-796A-15968 ; Sequence 15968, Application US/09248796A

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PRIOR APPLICATION NUMBER: PCT/JP98/01783;
PRIOR APPLICATION NUMBER: PCT/JP98/01783;
PRIOR FILING DATE: 1998-04-17
PRIOR APPLICATION NUMBER: JP 9/310027;
PRIOR FILING DATE: 1997-10-24
PRIOR APPLICATION NUMBER: JP 9/116570
PRIOR FILING DATE: 1997-04-18
NUMBER OF SEQ ID NOS: 73
SOPTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 72
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                                                                                                                     US-09-839-479-71
                                                                                                                                        RESULT 13
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US-09-418-710-72
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TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICAN
TITLE OF INVENTION: POR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107196.132
CURRENT APPLICATION NUMBER: US/09/248,796A
CURRENT PILING DATE: 1999-02-12
PRIOR APPLICATION NUMBER: US 60/074,725
PRIOR FILING DATE: 1998-02-13
PRIOR FILING DATE: 1998-02-13
PRIOR FILING DATE: 1998-08-13
NUMBER OF SEQ ID NOS: 28208
LENGTH: 439
TYDE: 057
                                                       Sequence 71, Application US/09839479 Patent No. 6727222 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                               Query Match
Best Local
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Best Local Similarity
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CURRENT APPLICATION NUMBER: US/09/418,710
CURRENT FILING DATE: 1999-10-15
APPLICANT: Jones, Michael H.
TITLE OF INVENTION: TRANSCRIPTIONAL REGULATOR
FILE REFERENCE: 06501-042002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Jones, Michael H.
TITLE OF INVENTION: TRANSCRIPTIONAL REGULATOR
FILE REFERENCE: 06501-042001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME/KEY: UNSURE LOCATION: (12)
OTHER INFORMATION: Identity of amino acid sequences at the above locations are unkno
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                                                                                                                                                                                                                                                                                                                                                                                                                   ENGTH: 1969
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9; Conserv
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57.1%;
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Pred. No.
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75;
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US-09-839-479-21
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TITLE OF INVENTION: TRANSCRIPTIONAL REGULAT
FILE REFERENCE: 06501-042001
CURRENT APPLICATION NUMBER: US/09/418,710
CURRENT FILING DATE: 1999-10-15
PRIOR APPLICATION NUMBER: PCT/JP98/01783
PRIOR FILING DATE: 1998-04-17
PRIOR APPLICATION NUMBER: JP 9/310027
PRIOR APPLICATION NUMBER: JP 9/310027
PRIOR APPLICATION NUMBER: JP 9/116570
PRIOR APPLICATION NUMBER: JP 9/116570
PRIOR APPLICATION NUMBER: JP 9/116570
PRIOR FILING DATE: 1997-04-18
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US-09-839-479-71
                                                                                                                                                Sequence 21, Application US/09839479 Patent No. 6727222 GENERAL INFORMATION:
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Patent No. 6596482
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             APPLICANT: JONES, MICHAEL H.
TITLE OF INVENTION: TRANSCRIPTIONAL REGULATOR
FILE REFERENCE: 06501-042002
CURRENT APPLICATION NUMBER: US/09/839,479
CURRENT FILLING DATE: 2001-04-20
PRIOR APPLICATION NUMBER: US 09/418,710
PRIOR FILING DATE: 1999-10-15
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PRIOR FILING DATE: 1998-04-17
PRIOR APPLICATION NUMBER: JP 9/310027
PRIOR FILING DATE: 1997-10-24
PRIOR APPLICATION NUMBER: JP 9/116570
PRIOR FILING DATE: 1997-04-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQ ID NOS: 73
SOFTWARE: FastSEQ for Windows Version 4.0
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CURRENT FILING DATE: 2001-04-20
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SOFTWARE: FastSEQ for Windows Version 4.0
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APPLICATION NUMBER: PCT/JP98/01783
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75.0%;
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Pred. No. 75;
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## PRIOR FILING DATE: 1998-04-17
## PRIOR APPLICATION NUMBER: JP 9/310027
## PRIOR APPLICATION NUMBER: JP 9/310027
## PRIOR FILING DATE: 1997-10-24
## PRIOR APPLICATION NUMBER: JP 9/116570
## PRIOR FILING DATE: 1997-04-18
## NUMBER OF SEQ ID NOS: 72
## NUMBER OF SEQ ID NOS: 72
## SOFTWARE: PastSEQ for Windows Version 4.0
## SEQ ID NO 21
## LENGTH: 1972
## TYPE: PRT
## ORGANISM: Homo sapiens
## US-09-839-479-21
## OUETY MATCH
## DATE: 1972

## OUETY MATCH
## DATE: 1972

## OUETY MATCH
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Listing first 45 summaries
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Maximum DB seq length: 200000000
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Perfect score:
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                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                           Score
         Published Applications AA:*

1: /cgn2_6/ptodata/1/pubpaa/USO7_PUBCOMB.pep:*

2: /cgn2_6/ptodata/1/pubpaa/USO6_NEW_PUB.pep:*

3: /cgn2_6/ptodata/1/pubpaa/USO6_NEW_PUB.pep:*

4: /cgn2_6/ptodata/1/pubpaa/USO6_PUBCOMB.pep:*

5: /cgn2_6/ptodata/1/pubpaa/USO8_NEW_PUB.pep:*

6: /cgn2_6/ptodata/1/pubpaa/USO8_PUBCOMB.pep:*

7: /cgn2_6/ptodata/1/pubpaa/USO8_PUBCOMB.pep:*

8: /cgn2_6/ptodata/1/pubpaa/USO9A_PUBCOMB.pep:*

9: /cgn2_6/ptodata/1/pubpaa/USO9A_PUBCOMB.pep:*

10: /cgn2_6/ptodata/1/pubpaa/USO9A_PUBCOMB.pep:*

11: /cgn2_6/ptodata/1/pubpaa/USO9A_PUBCOMB.pep:*

13: /cgn2_6/ptodata/1/pubpaa/USO9A_PUBCOMB.pep:*

14: /cgn2_6/ptodata/1/pubpaa/USO9A_PUBCOMB.pep:*

15: /cgn2_6/ptodata/1/pubpaa/USO9A_PUBCOMB.pep:*

16: /cgn2_6/ptodata/1/pubpaa/USO0A_PUBCOMB.pep:*

17: /cgn2_6/ptodata/1/pubpaa/USO0A_PUBCOMB.pep:*

18: /cgn2_6/ptodata/1/pubpaa/USO0A_PUBCOMB.pep:*

19: /cgn2_6/ptodata/1/pubpaa/USO0A_PUBCOMB.pep:*

19: /cgn2_6/ptodata/1/pubpaa/USOOA_PUBCOMB.pep:*

19: /cgn2_6/ptodata/1/pubpaa/USOOA_PUBCOMB.pep:*

20: /cgn2_6/ptodata/1/pubpaa/USOOA_PUBCOMB.pep:*

20: /cgn2_6/ptodata/1/pubpaa/USOA_PUBCOMB.pep:*

21: /cgn2_6/ptodata/1/pubpaa/USOA_PUBCOMB.pep:*

22: /cgn2_6/ptodata/1/pubpaa/USOA_PUBCOMB.pep:*

23: /cgn2_6/ptodata/1/pubpaa/USOA_PUBCOMB.pep:*

24: /cgn2_6/ptodata/1/pubpaa/USOA_PUBCOMB.pep:*

25: /cgn2_6/ptodata/1/pubpaa/USOA_PUBCOMB.pep:*

26: /cgn2_6/ptodata/1/pubpaa/USOA_PUBCOMB.pep:*

27: /cgn2_6/ptodata/1/pubpaa/USOA_PUBCOMB.pep:*

28: /cgn2_6/ptodata/1/pubpaa/USOA_PUBCOMB.pep:*

29: /cgn2_6/ptodata/1/pubpaa/USOA_PUBCOMB.pep:*
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Query
Match Length
         November 1, 2005, 12:54:52; Search time 75.8824 Seconds (without alignments) 82.636 Million cell updates/sec
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  5 15 US-10-612-162-3

2 15 US-10-378-094-15

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9 US-09-991-126-5

14 US-10-266-745-5

15 US-10-378-094-3

15 US-10-384-060-3

15 US-10-384-080-3

16 US-10-231-494-3

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Sequence 3, Appli
Sequence 15, Appl
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Sequence 3, Appli
Sequence 3, Appli
Sequence 4, Appli
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Sequence 4, Appli
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US-10-702-148-21	US-10-376-537-21	39-479-	US-10-702-148-71	US-10-376-537-72		51-3	-10-437-963-1	-10-801-990-	-066-108	-10-801-990-	-10-769-5	-10-769-514-	US-10-473-127-805	US-10-473-127-804	09-753-385-	US-09-753-385-2	-10-513-523-	-10-887-71	-10-383-201-	-10-383-201-	US-10-231-494-2	-10-384-060-	-10-378-0	9-935-642-	-10-429-654-	0-429-6	US-10-429-662-4	-10-429-660-	-10-429-66	-10-429-6	-10-429-6	-10-429-63	US-10-429-598-4
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### ALIGNMENTS

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US-10-612-162-3

Sequence 3, Application US/10612162

Publication No. US20040014145A1

GENERAL INFORMATION:
APPLICANT: Dade Behring Marburg GmbH
ITITLE OF INVENTION: Carbohydrate deficient transferrin (CDT)-specific TITLE OF INVENTION: antibodies, their preparation and use
FILE REFERENCE: 2002/B001

CURRENT APPLICATION NUMBER: US/10/612,162

CURRENT FILING DATE: 2003-07-03

PRIOR APPLICATION NUMBER: 10230550.1

PRIOR APPLICATION NUMBER: 1030550.1

PRIOR PILING DATE: 2002-07-05

PRIOR FILING DATE: 2002-07-05

PRIOR FILING DATE: 2003-05-19

NUMBER OF SEQ ID NOS: 4

SOFTWARE: Patentin Ver. 2.1

SEQ ID NO 3

LENGTH: 15

TYPE: PRT
ORGANISM: Homo sapiens

US-10-612-162-3

Ouery Match
Best Local Similarity 100.0%; Score 74; DB 15; Length 15;
Best Local Similarity 100.0%; Pred. No. 3.1e-06;

Matches 15; Conservative 0; Mismatches 0; Gaps 0;

1 SKLSMGSGLNLSEPN 15

Oy 1 SKLSMGSGLNLSEPN 15

Db 1 SKLSMGSGLNLSEPN 15
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RESULT 2 US-10-378-094-15

GENERAL INFORMATION

APPLICANT: PRIOR, APPLICANT: LAI,

Char-Huei

Sequence 15, Appublication No.

Application US/10378094 No. US20030221201A1

APPLICANT: SADÉGHI, Homayoun
APPLICANT: TURNER, Andrew
TITLE OF INVENTION: MODIFIED TRANSFERRIN FUSION PROTEINS
FILE REFERENCE: 54710-5001-01-US
CURRENT APPLICATION NUMBER: US/10/378,094
CURRENT FILING DATE: 2003-03-04
PRIOR APPLICATION NUMBER: US 10/231,494
PRIOR APPLICATION NUMBER: US 10/231,494
PRIOR FILING DATE: 2002-08-30
PRIOR FILING DATE: 2002-08-30
PRIOR FILING DATE: 2002-08-30

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US-10-384-060-36
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PRIOR FILING DATE: 2002-08-30
PRIOR PELICATION NUMBER: US 60/334,059
PRIOR FILING DATE: 2001-11-30
PRIOR APPLICATION NUMBER: US 60/315,745
PRIOR APPLICATION NUMBER: US 60/406,977
PRIOR APPLICATION NUMBER: US 60/406,977
PRIOR APPLICATION NUMBER: US 60/406,977
PRIOR FILING DATE: 2002-08-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 36, Application US/10384060 Publication No. US20030226155A1 GENERAL INFORMATION:
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SOFTWARE: PatentIn version 3.2
SEQ ID NO 36
LENGTH: 42
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                                                          Query Match
Best Local Similarity
Matches 12; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: TURNER, Andrew
TITLE OF INVENTION: MODIFIED TRANSFERRIN-ANTIBODY FUSION PROTEINS
FILE REFERENCE: 54710-5004-US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: SADEGHI, Homayoun
APPLICANT: PRIOR, Christopher P.
APPLICANT: TURNER, Andrew
                                                                                                                                                                 TYPE: PRT
ORGANISM: Artificial sequence
FEATURE:
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85.7%;
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85.7%;
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                                                          Score 60; DB 15; Length 42; Pred. No. 0.0032; 0; Mismatches 2; Indels
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Pred. No. 0.0032;
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US-10-378-094-3
, Sequence 3, Application US/10378094
, Publication No. US20030221201A1
, GENERAL INFORMATION:
, APPLICANT: PRIOR, Christopher P.

RESULT 6

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                                                                                                                                         ; TYPE: PRT ; ORGANISM: Homo sapiens US-10-266-745-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; ORGANISM: Homo sapiens US-09-891-126-5
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                                                                                                                                                                                                                                                                  CURRENT FILING DATE: 2002-10-09
PRIOR APPLICATION NUMBER: US/10/266,745
CURRENT FILING DATE: 2002-10-09
PRIOR APPLICATION NUMBER: US/09/891,126
PRIOR FILING DATE: 2001-06-26
PRIOR APPLICATION NUMBER: PCT/US00/34769
PRIOR FILING DATE: 2000-12-21
PRIOR PILING DATE: 2000-12-21
PRIOR PILING DATE: 1999-12-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Ruben et al.

TITLE OF INVENTION: Transferrin Polynucleotides, Polypeptides, and Antibodies
FILE REFERENCE: PT03591
CURRENT APPLICATION NUMBER: US/09/891,126
CURRENT FILING DATE: 2001-06-26
PRIOR APPLICATION NUMBER: PCT/US00/34769
PRIOR FILING DATE: 2000-12-21
PRIOR FILING DATE: 2000-12-23
NUMBER OF SEQ ID NOS: 7
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 5.0
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Matches
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Patent No. US20020072596A1
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Best Local Similarity
                                                                                                       Query Match
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TITLE OF INVENTION: Transferrin Polynucleotides, Polypeptides, and Antibodies
FILE REFERENCE: PT035P1
                                                                                                                                                                                                                                  SOFTWARE: PatentIn Ver. 2.0
                                                                                                                                                                                                                                                   NUMBER OF SEQ ID NOS: 7
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                    KLSMGSGLNLSEPN 15
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                                                                                      Score 60; DB 14; Length 328; Pred. No. 0.032;
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Pred. No. 0.032;
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; NAME/KEY: misc feature ; OTHER INFORMATION: C1 subdomain of transferrin US-10-378-094-15

SOFTWARE: PatentIn version 3.2 SEQ ID NO 15

TYPE: PRT ORGANISM: Homo sapiens

LENGTH:

FEATURE:

PRIOR APPLICATION NUMBER: US 60/334,059
PRIOR FILING DATE: 2001-11-30
PRIOR APPLICATION NUMBER: US 60/315,745
PRIOR FILING DATE: 2001-08-30
NUMBER OF SEO ID NOS: 66

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FILE REFERENCE: 54710-5001-01-US
CURRENT APPLICATION NUMBER: US/10/378,094
CURRENT FILING DATE: 2003-03-04
PRIOR APPLICATION NUMBER: US 10/231,494
PRIOR APPLICATION NUMBER: US 60/334,059
PRIOR FILING DATE: 2001-11-30
PRIOR FILING DATE: 2001-11-30
PRIOR APPLICATION NUMBER: US 60/315,745
PRIOR PILING DATE: 2001-08-30
PRIOR APPLICATION NUMBER: US 60/315,745
PRIOR FILING DATE: 2001-08-30
INUMBER OF SEQ ID NOS: 66
SOFTWARE: PatentIn version 3.2
SEQ ID NO 3
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US-10-384-060-3
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                                                                                                                                                               US-10-384-060-3
                                                                                                                                                                                                                                                                                                                                                                                                       FILE REFERENCE: 54710-5004-US
CURRENT APPLICATION NUMBER: US/10/384,060
CURRENT FILING DATE: 2003-03-10
PRIOR APPLICATION NUMBER: US 10/231,494
PRIOR FILING DATE: 2002-08-30
PRIOR APPLICATION NUMBER: US 60/334,059
PRIOR FILING DATE: 2001-11-30
PRIOR APPLICATION NUMBER: US 60/315,745
PRIOR APPLICATION NUMBER: US 60/315,745
PRIOR FILING DATE: 2001-08-30
                                                                               Query Match
Best Local Similarity
Matches 12; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 3, Application US/10384060 Publication No. US20030226155A1
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Best Local
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APPLICANT: PRIOR, Christopher P.
APPLICANT: TURNER, Andrew
TITLE OF INVENTION: MODIFIED TRANSPERRIN-ANTIBODY FUSION PROTEINS
                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION NUMBER: US 60/406,977 PRIOR FILING DATE: 2002-08-30 NUMBER OF SEQ ID NOS: 80
                                                                                                                                                                                                                                        LENGTH: 679
TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                              NAME/KEY: MISC FEATURE
OTHER INFORMATION: Mature Transferrin Protein
                                                                                                                                                                                                                             FEATURE:
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ORGANISM: Homo sapiens
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les 12; Conserv
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CANT: TURNER, Andrew
OF INVENTION: MODIFIED TRANSFERRIN FUSION PROTEINS
496 KLCMGSGLNLCEPN 509
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Pred. No. 0.071;
0; Mismatches
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Pred. No. 0.071;
                                                                               Mismatches
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; Sequence 4, Application US/10429497
; Publication No. US20040219098A1
; GENERAL INFORMATION:
APPLICANT: Sandhu, Jasbir
; TITLE OF INVENTION: Methods For The Treatment of
; FILE REFERENCE: 2537.000006
; CURRENT APPLICATION NUMBER: US/10/429,497
; CURRENT FILING DATE: 2003-05-02
; NUMBER OF SEQ ID NOS: 6
; SOFTWARE: PatentIn version 3.1
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Best Local S
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PRIOR FILING DATE: 2001-08-30
PRIOR APPLICATION NUMBER: US 60/334,059
PRIOR FILING DATE: 2001-11-30
NUMBER OF SEQ ID NOS: 30
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 3
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Best Local Similarity
Matches 12; Conserv
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SEQ ID NO 4
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SOFTWARE: PatentIn version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: Composition Useful For The Diagnosis, Imaging and Treatment Of T FILE REFERENCE: 2537.000001
CURRENT APPLICATION NUMBER: US/10/429,482
CURRENT FILING DATE: 2003-05-02
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TITLE OF INVENTION: Modified Transferrin Fusion
FILE REFERENCE: 54710-5001-US
CURRENT APPLICATION NUMBER: US/10/231,494
CURRENT FILING DATE: 2002-08-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Sandhu, Jasbir
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TYPE: PRT
ORGANISM: Homo sapiens
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TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
OTHER INFORMATION: Mature transferrin protein
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Pred. No. 0.071;
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Pred. No. 0.071;
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Sequence 4, Application US/10429515

Publication No. US20040219099A1

GENERAL INFORMATION:
APPLICANT: SANDRU, Jasbir
TITLE OF INVENTION: Methods For The Treatment Of
FILE REFERENCE: 2537.000005

CURRENT APPLICATION UMBER: US/10/429,515

CURRENT FILING DATE: 2003-05-02

NUMBER OF SEQ ID NOS: 6

SOFTWARE: Patentin version 3.1

SEQ ID NO 4

LENGTH: 679
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-429-497-4
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US-10-429-515-4
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US-10-429-598-4
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US-10-429-635-4
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Publication No. US20040219100A1

GENERAL INFORMATION:
APPLICANT: Sandhu, Jasbir
TITLE OF INVENTION: Composition Useful For The Treatment of Tumors
FILE REFERENCE: 2537.000003
CURRENT APPLICATION NUMBER: US/10/429,598
CURRENT FILING DATE: 2003-05-02
NUMBER OF SEQ ID NOS: 6
SOFTWARE: Patentin version 3.1
SEQ ID NO 4
LENGTH: 679
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Sequence 4, Application US/10429635 Publication No. US20040219101A1 GENERAL INFORMATION:
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ORGANISM: Homo sapiens
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ORGANISM: Homo sapiens
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Pred. No.
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Sequence 4, Application US/10429653

Publication No. US20040219102A1

GENERAL INFORMATION:
APPLICANT: Sandhu, Jasbir
ITILE OF INVENTION: Compositions For Drug Delivery
FILE REFERENCE: 2537,000009
CURRENT APPLICATION NUMBER: US/10/429,653
CURRENT FILING DATE: 2003-05-02

NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin version 3.1
SEQ ID NO 4
LENGTH: 679
TYPE: PRT
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US-10-429-653-4
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US-10-429-659-4
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Publication No. US20040219103A1

GENERAL INFORMATION:

APPLICANT: Sandhu, Jasbir

TITLE OF INVENTION: Methods Useful For The Diagnosis, Imaging and FILE REFERENCE: 2537.000004

CURRENT APPLICATION NUMBER: US/10/429,659

CURRENT FILING DATE: 2003-04-30

NUMBER OF SEQ ID NOS: 8

SOFTWARE: Patentin version 3.1

SEQ ID NO 4

LENGTH: 679

TURNER OF SEQ ID NOS: 8

SOFTWARE: Patentin version 3.1
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TITLE OF INVENTION: Composition Useful For Treatment Of Tumors
FILE REFERENCE: 2537.000007
CURRENT APPLICATION NUMBER: US/10/429,635
CURRENT FILING DATE: 2003-05-02
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
LENGTH: 679
TYPE: NOT
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Best Local Similarity 85.7%;
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496 KLCMGSGLNLCEPN 509

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Search completed: November 1, 2005, 13:26:07 Job time: 76.8824 secs

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIE

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51.4	51.4	51.4	51.4	51.4	51.4	51.4	52.7	52.7	52.7	Ν.	52.7				52.7	<u>ب</u>	54.1		54.1	54.1	54.1		54.1	54.1	55.4	55.4	55.4	81.1	Query Match	,
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flagellar capping	CCC1 protein - yea	probable membrane		ש	l car	hypothetical prote	trithorax protein	conserved hypothet	ovarian protein -	protein F12A21.3 (	alida	hypothetical prote	surface ant	large surface anti		_	tical pr	cogniti	O.		9	surface ant	large surface anti	Œ	_	1	cal	transferrin precur	tion	

A;Molecule type: DNA
A;Molecule type: DNA
A;Residues: 1-72;991-300 <ADR>
A;Residues: 1-72;991-300 <ADR>
A;Cross-references: EMBL:M15673
A;Cross-references: EMBL:M15673
R;Uzan, G.; Frain, M.; Park, I.; Besmond, C.; Maessen, G.; Trepat, J.S.; Zakin, M.M.; K:
Blochem. Blophys. Res. Commun. 119, 273-281, 1984
A;Title: Molecular cloning and sequence analysis of CDNA for human transferrin.
A;Reference number: A32739; MUID:84153910; PMID:6322780
A;Accession: A32739; MUID:84153910; PMID:6322780
A;Accession: A32739
A;Molecule type: mRNA
A;Residues: 422-690, 'G', 692-698 <UZA>
A;Residues: 422-690, 'G', 692-698 <UZA>
A;Cross-references: EMBL:M15255; NID:g339468; PIDN:AAA61142.1; PID:g339469
R;MacGillivray, R.T.A; Mendez, E.; Sinha, S.K.; Sutton, M.R.; Lineback-Zins, J.; Brew, Proc. Natl. Acad. Sci. U.S.A. 79, 2504-2508, 1982

45	44	43	42	41	40	39	38	37	36	35	34	ü	32	31	30
37	37	37	37	37	37	37	37	37.5	37.5	86	38	38	38	38	38
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RWRTC2	A97988	C95118	T35318	S31463	F71973	B27632	T20860	H98100	F95236	A41098	T05901	WZBE54	AH1085	A64956	G85809
T-cell surface gly	hypothetical prote	hypothetical prote	probable dehydroge	probable integrase	hypothetical prote	T-cell receptor al	hypothetical prote	hypothetical prote	PTS system, IIC co	calcium channel pr	hypothetical prote	gene 54 protein -	hypothetical prote	flagellar hook-ass	flagellar capping

## ALIGNMENTS

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R;Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perna, N.T.; I.A.; Rose, D.J.; Mau, B.; Shao, Y. Science 277, 1453-1462, 1997
A;Title: The complete genome sequence of Escherichia coli K-12 A;Reference number: A64720; MUID:97426617; PMID:9278503
A;Accession: C65068
                                                                                                                                         hypothetical protein b2850 - Escherichia coli (strain K-12)
C;Species: Escherichia coli
C;Date: 12-Sep-1997 #sequence_revision 17-Sep-1997 #text_ch
C;Accession: C65068
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A;Cross references: GB:M26641; NID:g339988; PIDN:AAA61233.1; PID:g339989
R;Schaeffer, E.; Lucero, M.A.; Jeltsch, J.M.; Py, M.C.; Levin, M.J.; Char Gene 56, 109-116, 1987
A;Title: Complete structure of the human transferrin gene. Comparison wit A;Reference number: I54011; MUID:88056305; PMID:3678832
A;Accession: I54011
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A;Residues: 564-998 <RE4>
A;Residues: 564-998 <RE4>
A;Croses-references: GB:M17614; NID:g339483; PIDN:AAA61148.1;
A;Cromment: Each of the two repetitive domains binds a ferric
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A; Residues: 1-72 < RE3 >
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Inn. N. Y. Acad. Sci. 646, 140-154, 1991
(Title: A cloned gene for human transferrin.
(Reference number: I51959; MUID:92231399; PMID;
(Accession: I51959)
                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
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Matches 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;20-350/Domain: transferrin repeat homology <TRH1>
;356-686/Domain: transferrin repeat homology <TRH2>
;28-67,38-58,137-213,156-350,177-193,180-196,190-198,246-260,358-615,364-396,374-387,42
;432,630/Binding site: carbohydrate (Asn) (covalent) #status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;Cross-references: GDB:120432; OMIM:190000
;Map position: 3g21-3g21
;Introns: 15/1; 72/3; 119/1; 168/1; 212/2; 231/1; 290/3; 350/1; 401/3; 433/1; 444/1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Superfamily: transferrin; transferrin repeat homology; keywords: duplication; glycoprotein; iron transport; metal; keywords: duplication; estatus predicted cSIG; 1-19/Domain: signal sequence #status predicted cSIG; 1-20-698/Product: transferrin #status experimental <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;Molecule type: mRNA
;Residues: 1-698 <RE
                                                                                                                                       ;Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Description: binds iron for delivery into cells
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                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
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85.7%;
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 1;
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                                                                                                                                                             #text_change 09-Jul-2004
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                                                                                                                    V.; Riley,
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C; Superfamily: 1
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gasawara, N.; Yasunaga,
DNA Res. 8, 11-22, 2001
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A; Residues: 1-163 <STO>
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KLSMGSGLNLSE 13
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66.7%;
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hypothetical protein Z4171 [imported] - Escherichia coli (strain O157:H7, C;Species: Escherichia coli
C;Species: Bscherichia coli
C;Date: 16-Feb-2001 #sequence_revision 16-Feb-2001 #text_change 09-Jul-200
C;Accession: G85937
C
                                                                                                                                                                                                                                                                                                              A;Cross-references: UNIPROT:Q8X6H8; GB:AE005174; A;Experimental source: strain 0157:H7, substrain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Title: Genome sequence of enterohemorrhagic Escherichia A;Reference number: A85480; MUID:21074935; PMID:11206551
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A;Cross-references: UNIPROT:Q46786; GB:AE000369; GB:U00096; NID:g2367168; PIDN:AAC75889
A;Experimental source: strain K-12, substrain MG1655
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N.; Yasunaga, T.; Kuhara, S.; Shiba, T.; Hattori, M.; S
                                                                                                                                                                       Escherichia coli hypothetical
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Score 41; DB 2; Length 163; Pred. No. 5.4; 2; Mismatches 2; Indels
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Pred. No. 5.
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Hattori, M.; Shinagawa, H.
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Potamousis,
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RESULT 7
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A;Title: Hepatitis B virus genomic sequence in the circulation A;Reference number: Z17684; MUID:99129050; PMID:9930189
A;Accession: T13469
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R;Takahashi, K.; Akahane, Y.; Hino, K.; Ohta, Y.; Mishiro, S.
Arch. Virol. 143, 2313-2326, 1998

A;Title: Hepatitis B virus genomic sequence in the circulation of hepatocellular carcinc A;Reference number: Z17684; MUID:99129050; PMID:9930189

A;Accession: T13474
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C;Superfamily: hepatitis B virus surface antigen
C;Keywords: glycoprotein; surface antigen
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A;Variety: 1solate 09D09HCC
C;Date: 13-Aug-1999 #sequence_revision 13-Aug-1999 #text_change
C;Accession: T13469
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C;Species: hepatitis B virus, HBV
A;Variaty: isolate 29Y11HCC
C;Date: 13-Aug-1999 #sequence_revision 13-Aug-1999 #text_change
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A;Experimental source: Japanese patient with hepatocellular carcinoma isolate 29Y11HCC
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A;Experimental source: Japanese patient with hepatocellular carcinoma isolate 09D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Introns: 123/2
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Best Local S
Matches 9
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  ;Cross-references: UNIPROT:Q81108;
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surface antigen - hepatitis B virus (subtype adr)
N;Alternate names: envelope protein; HBs antigen
N;Contains: surface antigen pre-S1 (large envelope protein); surface antigen
C;Species: hepatitis B virus, HBV
A;Variety: subtype adr
C;Accession: S35528
C;Accession: S35528
C;Accession: S35528
R;Mukaide, M; Kumazawa, T.; Hoshi, A.; Kawaguchi, R.; Hikiji, K.
Nucleic Acids Res. 20, 6105, 1992
Nucleic Acids Res. 20, 6105, 1992
A;Title: The complete nucleotide sequence of hepatitis B virus, subtype adr
A;Reference number: S35527; MUID: 93096607; PMID: 1461746
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C;Species: hepatitis B virus, HBV
C;Species: hepatitis B virus, HBV
C;Date: 14-Nov-1983 #sequence revision 14-Nov-1983 #text_change 09-Jul-2004
C;Accession: A03705; S04569; JQ2107; PQ0608
R;Ono, Y:; Onda, H:; Sasada, R:; Igarashi, K:; Sugino, Y:; Nishioka, K:
Nucleic Acids Res. 11, 1747-1757, 1983
A;Title: The complete nucleotide sequences of the cloned hepatitis B virus DNA; subtype
A;Reference number: A93460; MUID:83168919; PMID:6300776
A;Accession: A03705
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A;Cross-references: UNIPROT:P03140; GB:V00867
A;Cross-references: UNIPROT:P03140; GB:V00867
A;R;Rho, H.M.; Kim, K.; Hyun, S.W.; Kim, Y.S.
Nucleic Acids Res. 17, 2124, 1989
A;Title: The nucleotide sequence and reading frames of a A;Reference number: S04568; MUID:89183619; PMID:2928116
A;Accession: S04569
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S35528
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C;Keywords: glycoprotein; surface antigen
C;Keywords: glycoprotein; surface antigen
f;120-400/Product: middle surface antigen (gene pre-S2/S) #status predicted
F;175-400/Product: major surface antigen (gene S) #status predicted <MSA>
F;175-400/Product: major surface antigen (Asn) (covalent) #status predicted
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J. Gen. Virol. 73, 3141-3145, 1992
A;Title: Molecular basis of hepatitis B virus serotype variations within A;Reference number: PQ0453; MUID:93107848; PMID:1469353
A;Accession: PQ0608
A;Molecule type: DNA
A;Residues: 275-354 <NO2>
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A;Residues: 1-50,'R',52-66,'YP',69-129,'V',131-142,'P',144-164,'S',166-176,'S',178-338,
A;Cross-references: EMBL:X14193
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A;Reference number: JQ2044; MUID:93329382; PMID:8336122
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J. Gen. Virol.
A;Molecule type: DNA
A;Residues: 1-400 <M
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Best Local
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Pred. No.
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EMBL:D12980; NID:g221500; PIDN:BAA02359.1; PID:g2215

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A; Gene: S
A; Introns: 165/2
C; Superfamily: he
C; Keywords: surfa
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R;Mimms, L.T.; Solomon, L.R.; Ebert, J.W.; Fields, H.
Biochem. Biophys. Res. Commun. 195, 186-191, 1993
A;Title: Unique PreS sequence in a gibbon-derived hepatitis
A;Reference number: PNO601; MUID:93371402; PMID:8363598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R;Loncarevic, I.F.; Zentgraf, H.; Schroeder, C.H.
Nucleic Acids Res. 18, 4940, 1990
A;Title: Sequence of a replication competent hepatitis B
A;Reference number: S12598; MUID:90370503; PMID:2395664
A;Accession: S43492
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Variety: subtype adr
C;Date: 07-Sep-1994 #sequence_revision 10-Nov-1995 #text_change 09-Jul-2004
C;Accession: S43492; PN0601; PN0602
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N;Alternate names: HBs antigen
N;Contains: surface antigen pro
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A;Residues: 57-95 <MIM>
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A;Accession: PN0601
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A;Residues: 1-445 <LON>
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                                                                                                                                                                                                                         ;Keywords: surface antigen
;Keywords: surface antigen pre-S1 (large envelope protein) #status predicted <PS1;1-445/Product: surface antigen pre-S1 (large envelope protein) #status predicted <PS1;1-164/Domain; pre-S1 domain #status predicted <PRE1>;165-445/Product: surface antigen pre-S2 (middle envelope protein) #status predicted <PRE2>;165-219/Domain; pre-S2 domain #status predicted <PRE2>
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Keywords: surface antigen
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Best Local (
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Pred. No.
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;Cross-references:
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C;Accession: H64663
A.R.; Clayton, R.A.; Sutton, G.G.; Fleischmann, R.D.
Peterson, S.; Loftus, B.; Richardson, D.; Dodson, R.; Khalak, H.G.; Glodek, A.; McKenne son, J.D.; Kelley, J.M.; Cotton, M.D.; Weidman, J.M.; Fujii, C.; Bowman, C.; Watthey, L. Rature 388, S39-547, 1997
A.Authors: Wallin, E.; Hayes, W.S.; Borodovsky, M.; Karpk, P.D.; Smith, H.O.; Fraser, C. A; Title: The complete genome sequence of the gastric pathogen Helicobacter pylori.
A.; Reference number: A64520; MUID: 97394467; PMID: 9252185
A.; Accession: H64663
A.; Accession: H64663
                                                                                                            R; Favello, T. submitted to the EMBL Data Library, November 1995 submitted to the sequence of C. elegans cosmid ^{\text{N-Nascription}}:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C;Accession: D71852
R;Alm, R.A.; Ling, L.S.L.; Moir, D.T.; King, B.L.; Brown, E.D.; Doig, P.C.; Smith, D.R.; Ives, C.; Gibson, R.; Merberg, D.; Mills, S.D.; Jiang, Q.; Taylor, D.E.; Vovis, G.F.; Nature 397, 176-180, 1999
A;Title: Genomic sequence comparison of two unrelated isolates of the human gastric path. A;Reference number: A71800; MUID:99120557; PMID:9923682
A;Accession: D71852
A;Accession: D71852
A;Status: preliminary
A;Status: preliminary
A;Residues: 1-448 <ARN>
A;Residues: 1-448 <ARN>
A;Cross-references: UNIPROT:Q9ZK62; GB:AE001535; GB:AE001439; NID:g4155664; PIDN:AAD0665
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A;Variety: strain J99
C;Date: 12-Peb-1999 #sequence_revision
C;Accession: D71852
                                                                                                                                                                                                                    hypothetical protein ZK402.5 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #t
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T27845
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Cross-references: UNIPROT:P56005; GB:AE000621; GB:AE000511; NID:g2314301; PIDN:AAD0819 C;Superfamily: signal recognition particle 54K protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            signal recognition particle protein - Helicobacter C;Species: Helicobacter pylori C;Date: 09-Aug-1997 #sequence_revision 09-Aug-1997
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C;Species: Helicobacter pylori
                         A; Molecule type: DNA
                                              A; Status: preliminary; translated
                                                                        A; Accession:
                                                                                          A; Description: The sequence A; Reference number: Z20429
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1-516 <FAV>
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Pred. No.
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UNIPROT: Q23477;

EMBL: U40956; PIDN: AAA81756.1;

CESP: ZK402.5

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A;Molecule type: DNA
A;Residues: 175-400 <NOR>
A;Coss-references: GB:X75666; NID:g416074; PIDN:CAA53362.1;
A;Experimental source: subtype adw2, strain P6
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C;Accession: C89991
C;Accession: C89991
R;Kuroda, M.; Ohta, T.; Uchiyama, I.; Baba, T.; Yuzawa, H.; Kobayashi, I.; Cui, L.; R,Kuroda, M.; Ohta, T.; Kobayashi, N.; Sawano, T.; Inoue, R.; Kaito, C.; Sekimizu, M.; Ogasawara, N.; Hayashi, H.; Hiramatsu, K.
C.; Shiba, T.; Hattori, M.; Ogasawara, N.; Hayashi, H.; Hiramatsu, K.
Lancet 357, 1225-1240, 2001
                                                                                                                         A;Molecule type: DNA
A;Residues: 1-400 <PLU's
A;Residues: 1-400 <PLU's
A;Residues: 1-400 <PLU's
A;Residues: 1-400 <PLU's
A;Cross-references: UNIPROT:Q67896; EMBL:Z35717; NID:g527440; PIDN:CAA84792.1; PID:g5274
A;Cross-reference: subtype adw2
A;Rorder, H.; Hammas, B.; Loefdahl, S.; Courouce, A.M.; Magnius, L.O.
J. Gen. Virol. 73, 1201-1208, 1992
A;Title: Comparison of the amino acid sequences of nine different serotypes of hepatitis
A;Reference number: JQ1570; MUID:92268879; PMID:1588323
A;Accession: JQ1575
                                                                                                                                                                                                                                                                                                                                                               A;Variety: subtype sdw2
G;Date: 31-Dec-1993 #sequence_revision 22-Oct-1999 #text_change 09-Jul-2004
G;Accession: S47411; JQ1575
R;Plucienniczak, A.
Bubmitted to the EMBL Data Library, August 1994
A;Description: Molecular cloning and sequencing of two complete genomes of polish isolat A;Reference number: S47404
A;Accession: S47411
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JQ1575
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N;Contains: surface antigen pre-S1 (large envelope protein); surface antigen pre-S2
C;Species: hepatitis B virus, HBV
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A;Residues: 1-338 <KUR>
A;Residues: 1-338 <KUR>
A;Cross-references: UNIPROT:Q998N8; GB:BA000018; PID:g13701799;
A;Experimental source: strain N315
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A;Introns: 28/2; 122/2; 160/2; 248/2; 420/3
C;Superfamily: Caenorhabditis elegans hypothetical protein Y57A10A.h
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;Date: 10-May-2001 #sequence_revision 10-May-2001 #text_change 09-Jul-2004
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46.7%;
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Pred. No. 30;
1; Mismatches
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Pred. No. 28;
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F;1-400/Product: surface antigen pre-S1 (large envelope protein) #status predicted <PS1
F;1-119/Domain: pre-S1 domain #status predicted <PRE1>
F;120-400/Product: surface antigen pre-S2 (middle envelope protein) #status predicted <
F;120-174/Domain: pre-S2 domain #status predicted <PRE2>
F;120-174/Domain: pre-S2 domain #status predicted <PRE2>
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F;177/Binding site: carbohydrate (Asn) (covalent) #status predicted
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RX Klausner R.D., Collins F.S., Wagner L., Shanmen C.M., Schuler G.D.,
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MEDLINB=87192006; PubMed=3106157; DOI=10.1016/0378-1119(86)90277-5;
Adrian G.S., Korinek B.W., Bowman B.H., Yang F.;
"The human transferrin gene: 5' region contains conserved sequences which match the control elements regulated by heavy metals, glucocorticoids and acute phase reaction.";
Gene 49:167-175(1986).
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                                                                                                                                                                                                                                                       MEDLINE=87066744; PubMed=3786138;
Lucero M.A., Schaeffer E., Cohen (
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MEDLINE=98272665; PubMed=9609685; DOI=10.1021/bi980355j;
Macgillivray R.T.A., Moore S.A., Chen J., Anderson B.F., Ba
Luo Y., Bewley M.C., Smith C.A., Murphy M.E.P., Wang Y., Ma
Woodworth R.C., Brayer G.D., Baker E.N.;
"Two high-resolution crystal structures of the recombinant human transferrin reveal a structural change implicated in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOI=10.1002/1097-4547(20000815)61:4<388::AID-JNR5>3.0.CO;2-Q; de Arriba Zerpa G.A., Saleh M.-C., Fernandez P.M., Guillou F. Espinosa de los Monteros A., de Vellis J., Zakin M.M., Baron F. Espinosa de los Monteros A., de Vellis J., Zakin M.M., Baron F. Walternative splicing prevents transferrin secretion during differentiation of a human oligodendrocyte cell line.";
J. Neurosci. Res. 61:388-395(2000).
                                                                                                                                                                                                                                                                                                                         MEDLINE=92031536; PubMed=1932003; Woodworth R.C., Mason A.B., Funk W.D., Mc "Expression and initial characterization of the N-terminal half-molecule of human Biochemistry 30:10824-10829(1991).
X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS) OF 23-352.
MEDILNE=9915527; PubMed=10029548; DDI-1021/bi9824543;
Bewley M.C., Tam B.M., Grewal J., He S., Shewry S., Murph
Mason A.B., Woodworth R.C., Baker E.N., Macgillivray R.T.
                                                                                       Jeffrey P.D., Bewley M.C., Macg
Woodworth R.C., Baker E.N.;
"Ligand-induced conformational
structure of the open form of t
                                                                                                                                                                                                                                                                                                                                                                                                                     Lineback-Zins J., Brew K.;
"The complete amino acid sequence of human proc. Natl. Acad. Sci. U.S.A. 79:2504-2508
                                                                                                                                                                                                                                                                                                                                                                                                                                                           McGillivray R.T.A.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      disease.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE OF 636-696 FROM N.A. MEDLINE=89386721; PubMed=2780570; Duguid J.R., Bohmont C.W., Liu N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CI
or
                                                                                                                                 X-RAY CRYSTALLOGRAPHY (2.2 ANGSTROMS) OF 22-350.
MEDLINE-98434369; PubMed-9760232; DOI=10.1021/bi9812064;
Jeffrey P.D., Bewley M.C., Macgillivray R.T.A., Mason A.
                                                                                                                                                                                                                                                                                                                                                                                             MUTAGENESIS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=97418135;
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100:457-458(1997)
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b S., Kajii E.
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A., Musalyamov A.K.;
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on of five site-directed
an transferrin.";
 , Shewry S., Murphy Macgillivray R.T.A.
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|nal half-molecule of human
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PIR, JQ2100, JQ2100.
PIR, JQ2101, JQ2101.
PIR, JQ2102, JQ2102.
PIR, JQ2103, JQ2103.
PIR, JQ2104, JQ2104.
PIR, JQ2108, JQ2106.
PIR, JQ2109, JQ2109.
PIR, JQ21109, JQ2111.
PIR, JQ21112, JQ2111.
PIR, JQ21113, JQ2112.
PIR, JQ21116, JQ2112.
PIR, JQ21116, JQ2112.
PIR, JQ21116, JQ2113.
PIR, JQ21116, JQ2112.
PIR, JQ21116, JQ2112.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=20528423; PubMed=11074474;
DOI=10.1002/1096-9071(200012)62:4<456::AID-JMV10>3.0.CO;2-3;
Sugauchi F., Mizokami M., Orito E., Ohno T., Kato H., Maki M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAR-2001
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                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
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Viruses; Retroid viruses; Hepadnaviridae; Orthohepadnavirus.
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                                                                                                                                                                                                                                                                                            63.5%;
66.7%;
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study
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Pred. No. 0.059;
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X. Sasaki T., Matsumoto T., Yamamoto K., Sakata K., Baba T., Katayose Y.,

X. Mu J., Niimura Y., Cheng Z., Nagamura Y., Antonio B.A., Kanamori H.,

X. Hosokawa S., Masukawa M., Arikawa K., Chiden Y., Haysahi M.,

X. Okamoto M., Ando T., Aoki H., Arita K., Hamada M., Harada C.,

X. Okamoto M., Ando T., Aoki H., Arita K., Hamada M., Harada C.,

X. Hijishita S., Honda M., Ichikawa Y., Idonuma A., Iijima M., Ikeda M.,

X. Ikeno M., Itch S., Itch T., Itch Y., Iwabuchi A., Kamiya K.,

X. Karasawa W., Katagiri S., Kikuta A., Kobayashi N., Kono I.,

X. Karasawa W., Katagiri S., Kikuta A., Kobayashi T., Mukai Y.,

X. Machita K., Maehara T., Mizuno H., Mizubayashi T., Mukai Y.,

X. Namiki N., Nakashima M., Nakama Y., Nakamichi Y., Nakamura M.,

X. Namiki N., Negishi M., Ohta I., Ono N., Saji S., Sakai, K., Shibata M.,

X. Namiki N., Negishi M., Ohta I., Ono N., Saji S., Sakai, K., Tsuji K.,

X. Namiki N., Vamagata H., Yamane H., Yoshiki S., Yoshihara R., Yukawa K.,

X. Yano M., Jiang J., Gojobori T.;

"The genome sequence and structure of rice chromosome 1.";

Nature 420:312-316(2002).
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25-OCT-2004 (TrEMBLrel. 28, Last annocation update)
Putative SLT1 protein (Ion homeostasis related protein/(Sodium/lithium tolerance protein).
Name=P0031D11.29; Synonyms=P0408C03.13;
Oryza sativa (japonica cultivar-group).
Ehkaryota, Vitidiplantae; Streptophyta; Embryophy Spermatophyta; Magnoliophyta; Liliopsida; Poales; Ehrhartoldeae; Oryzeae; Oryza.
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Best Local :
Name=caGPR1;
Candida albicans (Yeast).
Candida libicans (Yeast).
Eukaryota; Fungi; Ascomycota; S
Saccharomycetales; mitosporic S
NCBI TaxID=5476;
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Antoine W., Stewart J.M.
Evolution of SLT gene f
shock proteins.";
                                                                                                                                                                                                                                                      Q8J2T2
Q8J2T2;
Q1-MAR-2003
Q1-MAR-2003
Q1-MAR-2004
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InterPro; IPR000834; Peptidase M14.
PROSITE; PS00133; CARBOXYBEPT ZN 2;
SEQUENCE 521 AA; 58300 MW; 4CA71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              for chaperone activity under Submitted (JUN-2004) to the E EMBL; AP003231; BAB67895.1; - EMBL; AP003241; BAB93315.1; - EMBL; AY672599; AAT81168.1; -
                                                                                                                                                                                                                    G-protein coupled
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(TrEMBLrel.
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Pred. No.
                                                                           Saccharomycetina; Saccharomycetes; Saccharomycetales; Candida.
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4CA7F68BB355F970 CRC64;
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a; Poales; Poaceae;
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01-MAR-2004 (TrEMBLrel. 26, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
ENSANGP00000015427 (ENSANGP00000006590) (Fragment).
Name=ENSANGG00000012938; Synonyms=ENSANGG000000004992;
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SEQUENCE
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01-OCT-2002 (TrEMBLrel. 22, La
01-OCT-2003 (TrEMBLrel. 25, La
Hypothetical protein FLJ90414.
Homo sapiens (Human)
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EMBL, AB084519; BAC22916.1; -...
GO; GO:0004872; F:receptor activity; IEA.

Interpro; IPR002048; EF-hand.

IPROSITE; PS00018; EF-HAND; UNKNOWN_1.
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PubMed=15302825;
Miwa T., Takagi Y., Sh
Kumagai H., Tamaki H.;
                              SEQUENCE FROM N.A.
                                                                                                                                      Eukaryota; Metazoa;
Mammalia; Eutheria;
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Submitted (APR-2003) to the EMBL/GenBank/DDBJ databases
-!- CAUTION: The sequence shown here is derived from an
EMBL/GenBank/DDBJ whole genome shotgun (WGS) entry v
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Anopheles gambiae str. PEST.
Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Neoptera; Endopterygota; Diptera; Nematocera; Culicoidea; Anopheles.
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                                                                                                NCBI_TaxID=9606;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Н
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8; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LSMGSGLNLSEPN 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SPMSMGAGINWTEP 669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SKLSMGSGLNLSEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LSLGLGLNPADPN 159
      Ota
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 368
368 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     823 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
      H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   368
      Nishikawa
                                                                                                                               Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  92340 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    40792 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Shinozaki M., Yun C.W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                58.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  62.2%;
57.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14
                                                                                                                                                                                                                                                              Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 43; DB
Pred. No. 37;
3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        w
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Pred. No.
                                                                                                                                      Craniata; Vertebrata;
Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8D3D36633C0A29CF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4B3A61EBEDD6E709 CRC64;
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      Hayashi K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     368
                                                                                                                                                                                                                                                                                                                                                                                                        796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 2;
37;
                                                                                                                                                                     Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 2;
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                                                                                                                                                                                                                                                                     update)
      Otsuki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         regulates morphogenesis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 823
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T.,
Sugiyama
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RESULT 7
BA2B_HUMA
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Best Local (
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TISSUE=SKeletal muscle;
TISSUE=SKeletal muscle;
MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
Klausner R.D., Collins F.S., Wagner L., Schammen C.M., Schuler G.D.
Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam; PF00628; PHD; 1.

SWART; SM00249; PHD; 1.

PROSITE; PS50016; ZF PHD 2; 1.

NON TER 796 796

SEQUENCE 796 AA; 88462 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BA2B HUMAN STANDARD; PRT. 1972 AA.
Q9UIFB; Q96EA1; Q96SQ8; Q99252; Q994N8;
28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
55-JUL-2004 (Rel. 44, Last annotation update)
Bromodomain adjacent to zinc finger domain 2B
Name=BAZ2B; Synonyms=KIAAA1476;
                                                                                                                                                                                                                                                 MALLILINE=20277482; PubMed=10819331;
Nagase T., Kikuno R., Ishikawa K.-I., Hirosawa M., Ohara O.;
"Prediction of the coding sequences of unidentified human genes.
The complete sequences of 100 new cDNA clones from brain which co
for large proteins in vitro.";
DNA Res. 7:143-15070000
                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=20130112; PubMed=10662543; DOI=10.1006/geno.1999.6071; Jones M.H., Hamana N., Nezu J., Shimane M.; "A novel family of bromodomain genes."; Genomics 63:40-45(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; AK074895; BAC11274.1; -.
HSSP; Q9UIGO; 1F62.
GO; GO:0003677; F:DNA binding; IEA.
GO; GO:0006355; P:regulation of tra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Yamamoto J., Wakamatsu A., Nakamura Y., Kojima S., Nagahari
Masuho Y., Ono T., Okano K., Yoshikawa Y., Aotsuka S., Sasak
Hattori A., Okumura K., Iwayanagi T., Ninomiya K.;
Submitted (MAR-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                     Ansorge W., Wirkner U., Submitted (JUL-2002) to
                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A. (ISOFORM Ohara O., Nagase T., Kikuno Submitted (APR-2003) to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                       SEQUENCE OF 1-799 FROM N.A.
                                                                                                                                                                                                 TISSUE=Melanoma;
                                                                                                                                                                                                                   SEQUENCE OF 1-776 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A. (ISOFORM 1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR011011; FYVE_PHI
InterPro; IPR001965; Znf_PHD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Suzuki Y., Nagai K., Sugano S., Ishii S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SLGSGLGLSEGN 427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SMGSGLNLSEPN 15
                                                                                                                                                                                                                                                7:143-150 (2000) .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       58.1%;
75.0%;
                                                                                                                                                                     Mewes H.-W., Weil B., the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      on of transcription, pHD_ZnF.
                                                                                                                                                                                                                                                                                                                                                                                       ₽ <u>3</u>)
                                                                                                                                       (ISOFORM 2).
                                                                                                                                                                                                                   (ISOFORM
                                                                                                                                                                                                                                                                                                                                                                       EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 43;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2EDB8BCAF9720C1E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                   <u>:</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          , 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kawai-Hio Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2
                                                                                                                                                                     Wiemann S. databases.
                                                                                                                                                                                                                                                                                                                                                                        databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (hWALp4)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA-dependent;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CRC64
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 (See http://www.isb-sib.ch/announce/

restrictions EMBL

g

a collaboration

outstation

-!- SIMILARITY: Contains 1 methy
-!- SIMILARITY: Contains 1 PHD-t
-!- CAUTION: Ref. 5 sequence diff
frameshift in position 731.

1 methyl-CpG-binding (MBD)
1 PHD-type zinc finger.
nce differs from that shown

finger. that shown

due to

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RA Ota T., Suzuki Y., Nishikawa T., Otsuki T., Sugiyama T., Irie R.,
RA Wakamatsu A., Hayashi K., Sato H., Nagai K., Kimura K., Makita H.,
RA Sekine M., Obayashi M., Nishi T., Shibahara T., Tanaka T., Ishii S.,
RA Yamamoto J.-I., Saito K., Kawai Y., Isono Y., Nakamura Y.
RA Nagahari K., Murakami K., Yasuda T., Iwayanagi T., Wagatsuma M.,
RA Nagahari K., Murakami K., Yasuda T., Iwayanagi T., Wagatsuma M.,
RA Nagahari K., Murakami K., Yasuda T., Iwayanagi T., Wagatsuma M.,
RA Sugawara M., Takahashi M., Kanda K., Yokoi T., Furuya T., Kikkawa E.,
RA Omura Y., Abe K., Kamihara K., Katsuta N., Sato K., Tanikawa M.,
RA Yamazaki M., Ninomiya K., Ishibashi T., Yamashita H., Murakawa K.,
RA Ishida S., Ono Y., Takiguchi S., Watanabe S., Yosida M., Hotuta T.,
RA Nomura Y., Togiya S., Komai F., Hara R., Takeuchi K., Arita M.,
RA Yoshikawa Y., Matsunawa H., Ichihara T., Shiohata N., Sano S.,
RA Moriya S., Momiyama H., Satoh N., Takami S., Terashima Y., Suzuki O.,
RA Nakagawa S., Senoh A., Mizoguchi H., Goto Y., Shimizu F., Wakebe H.,
RA Yamazaki M., Watanabe T., Sugiyama A., Takemoto M., Kawakami B.,
RA Pujimori Y., Komiyama M., Tashiro H., Tanigari A., Pujiwara T.,
RA Ono T., Yamada K., Fujii Y., Ozaki K., Hirao M., Ohmori Y.,
RA Akawabata A., Hikiji T., Kobatake N., Inagaki H., Ikema Y., Okamoto S.,
RA Matsumura K., Nakajima Y., Mizuno T., Morinaga M., Sasaki M.,
RA Mizushima-Sugano J., Satoh T., Shirai Y., Nakagawa K.,
RA Okumura K., Nagase T., Nomura N., Kikuchi H., Masuho Y., Yamashita R.,
RT "Complete sequencing and characterization of 21,243 full-length human
RT CDNAs."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C., Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J., Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H., Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A., Pahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A., Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C., Bolkesley R.W., Touchman J.W., Green E.D., Dickson M.C., Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.; "Generation and initial analysis of more than 15,000 full-length human and moves of the state of t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Poustka A., Klein M., Mewes H.-W., Gassenhuber J., Wiemann Submitted (JUN-1999) to the EMBL/GenBank/DDBJ databases.
-I- FUNCTION: May play a role in transcriptional regulation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CDNAs."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE OF 427-1215 FROM N.A. PubMed=14702039; DOI=10.1038/nc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE-Testis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE OF 1524-1972 FROM N.A.
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Note-Inferred from
TISGUE SPECIFICITY: E
tissues, whereas a sm
in testis.
- SIMILARITY: Belongs to
SIMILARITY: Contains
- SIMILARITY: Contains
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FUNCTION: May play a reinteracting with ISWI.
ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                                                                                                                            Event-Alternative splicing; Named isoforms=3; Comment-Experimental confirmation may be lacking for some
                                                                                                                                                                                                                                                            Note-Inferred
                                                                                                                                                                                                                                                      IsoId=Q9UIF8-2; Sequence=VSP_000553;
Note=Inferred from Ref.4;
                                                                                                                                                                                                                                                                                                                                           IsoId=Q9UIF8-1;
                                                                                                                                                                                                      IsoId=Q9UIF8-3;
                                                                                                                                                                                                                                                                                                                                                                                                       isoforms;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       36:40-45 (2004).
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Contains 1 |
Contains 1 |
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                                                                                                                                                                        Sequence=VSP_000554;
rom Ref.5;
                                                                                                                                                                                                                                                                                                                                              Sequence=Displayed;
                                                                                                         : Expressed at varying levels in smaller transcript was expressed
bromodomain.
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Query Match
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EMBL; AB040909; BAA96000.2; ALT INIT.
EMBL; AB040909; BAA9644.1; ALT_INIT.
EMBL; BC012576; AAH12576.1; ALT_FRAME.
EMBL; BC012576; BAB55231.1; ALT_INIT.
EMBL; AK027612; BAB55231.1; ALT_INIT.
EMBL; AK027612; BAB55231.1; -.
EMBL; AL080173; CAB45759.1; -.
PIR; T12495; T12495.
HSSP; Q9UIG0; 1F62.
HSSP; Q9UIG0; 1F62.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam; PF01423; PHD; 1.
Pfam; PF00528; PHD; 1.
PRINTS; PR00503; BROMODOMAIN.1; FALSE_NEG.
PROSITE; PS00633; BROMODOMAIN.2; 1.
PROSITE; PS50014; BROMODOMAIN.2; 1.
PROSITE; PS500827; DDT; 1.
PROSITE: PS50982; MBD; 1.
                                                                                            CONFLICT
CON
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  use by non-profit institutions as long a
modified and this statement is not removed.
entitles requires a license agreement (See l
or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                      VARSPLIC
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Similarity 9; Conserv
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; PS50016;
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IPR004022; DDT.
IPR001739; Methyl-CpG_bind.
IPR001965; Znf_PHD.
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50016; ZF_PHD_2; 1.
splicing; Bromodomain; Coiled
  Conservative
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75.0%;
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                         Score 43; I
Pred. No. 2
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Coiled coil
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Coiled coil
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Bromodomain
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regulation; Zinc-finger.
  Mismatches
                                                                                               D4F105C927B91569 CRC64;
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3P_000553.
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RESULT
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Q8GP40;
01-MAR-2003
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SEQUENCE FROM N.A. Rallu F., Ehrlich
                                                                 Streptococcus thermophilus.
Bacteria; Firmicutes; Lactobacillales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Candida glabrata CBS138.
Eukaryota; Fungi; Ascomycota;
Saccharomycetales; mitosporic
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05-JUL-2004 (TrEMBLrel. 27, Last an
Similar to sp) [004013 Saccharomyces
ORFNames=CAGLOK074369;
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                                     Streptococcus.
NCBI_TaxID=1308;
                                                                                                                        01-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                           -I-SIMILARITY: Belongs to the mitochondrial carrier family.
EMBL; CR380957; CAG61507.1; -.
EQ; GO:0016020; C:membrane; IEA.
GO; GO:0005488; F:binding; IEA.
GO; GO:0006810; P:transport; IEA.
InterPro; IPR001993; Mitoch_carrier.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bouchier C., Cauchier J.L.;
Souciet J.L.;
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                                                                                                           Eps110.
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                                                                                              Name=eps11Q;
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PROSITE; PS50920; SOLCAR; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nature 430:35-44(2004).
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| SLGSGLGLSEGN 1468
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AA; 33587 MW;
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Renault
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romyces cerevisiae YMR241w
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Pred. No.
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                                                                                                                                                                             PRT;
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                                                                Streptococcaceae,
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RESULT 11
Q6CKZ8
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Q6CKZ8;
25-OCT-2004
25-OCT-2004
25-OCT-2004
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01-MAR-2003
01-MAR-2003
                                                                                                                                                                                                                                                                          TIGREAMS; TIGRO0879; SP; 1.

PROSITE; PS50850; WFS; 1.

PROSITE; PS00210; SUGAR_TRANSPORT_1; UNKNOWN_1.

PROSITE; PS00210; SUGAR_TRANSPORT_2; UNKNOWN_1.

SUGAR_TRANSPORT_2; UNKNOWN_1.

SUGAR_TRANSPORT_2; UNKNOWN_1.

SUGAR_TRANSPORT_1; UNKNOWN_1.

SUGAR_TRANSPORT_2; UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases EMBL; AF454501; AAN63800.1; -. SEQUENCE 428 AA; 50454 MW; D2FB3E0EED466547 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; AF493565; AAN65374.1; -.
GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:0005351; F:sugar porter activity; IEA.
GO; GO:0005215; F:transporter activity; IEA.
GO; GO:0005413; P:carbohydrate transport; IEA.
           Kluyveromyces lactis NRRL Y-1140.
Eukaryota; Fungi; Ascomycota; Sac
                                     ORFNames=KLLA0F06853g;
                                                  Similarity.
                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR003663; Sugar_transpt.
InterPro; IPR005829; Sug_transporter
Pfam; PP00083; Sugar_tr; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Curr. Genet. 42:21-26(2002).
-!- SUBCELLULAR LOCATION: Integral membrane protein (By similarity)
-!- SIMILARITY: Belongs to the sugar transporter family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Takacova M., Sklenar P., Gbelska Y., Breunig K., Subik J.; "Isolation, heterological cloning and sequencing of the RPL28 gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kluyveromyces lactis (Yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Kluyveromyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q8J289
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TIGREAMS; TIGRO0879; SP; 1.
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InterPro; IPR005828; Sub_transporter.
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(TrEMBLrel.
(TrEMBLrel.
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Ascomycota; Saccharon; Saccharomycetaceae;
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nar P., Gbelska Y.,
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46.7%;
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Pred. No.
             Saccharomycotina;
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              Saccharomycetes;
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Best Local S
Matches
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InterPro; IPR005828; Sub_transporter.

InterPro; IPR005828; Sugar_transpt.

InterPro; IPR005823; Sugar_transpt.

InterPro; IPR005823; Sugar_transporter.

Pfam; PF00083; Sugar_tr; 1

PFNNTS; PR00171; SUGATRNSPORT.

ITGRPAMS; TIGR00879; SP; 1.

PROSITE; PS00216; SUGAR_TRANSPORT_1; UNKNOWN 1.

R PROSITE; PS00216; SUGAR_TRANSPORT_2; UNKNOWN 1.

R PROSITE; PS00217; SUGAR_TRANSPORT_2; UNKNOWN 1.

Sugar transport; Transmembrane; Transport.

Sugar transport; Transmembrane; Transport.
                                                                                                                                                                                                                                                                                     Q8U379;
Q1-JUN-2002 (TrEMBLrel. 21, C
Q1-JUN-2002 (TrEMBLrel. 25, L
Q1-QCT-2003 (TrEMBLrel. 25, L
ATP-dependent RNA helicase, E
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SEQUENCE FROM N.A.
STRAIN-Vc1 / DSM 3638 / ATCC 43587 / JCM 8422;
Weiss R.B., Dunn D.M., Robb F.T., Brown J.R.;
"The complete sequence of the Pyrococcus furiosus
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q8U379
                                                                                                                                                                                                                                                                              OrderedLocusNames=PF0592;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -!- SUBCELLULAR
                                                                                                                                                                                                            Archaea; Euryarchaeota;
                                                                                                                                                                                                                                            Pyrococcus furiosus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (JUL-2004)
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                                                                                                                                                   CBI_TaxID=2261;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SUBCELLULAR LOCATION: Integral membrane prote SIMILARITY: Belongs to the sugar transporter L; CR382126; CAG98099.1; -. GO:0016021; C:integral to membrane; IEA. GO:0005351; F:sugar porter activity; IEA. GO:0005215; F:transporter activity; IEA. GO:0008643; P:carbohydrate transport; IEA.
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P., Souciet J.L.;
evolution in yeasts.";
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RRL Y-1140;
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46.7%;
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N: Integral membrane protein (By similarity)
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putative.
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      genome.";
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RA Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Godayne J.D., Evans C.A., Godayne J.D., RA Adams M.D., Celniker S.E., Hilt R.A., Evans C.A., Godayne J.D., RA Godreye R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N., RA Barandon R.C., Vogers Y.H., Blazej R.G., Champe M., Pfeiffer B.D., RA Barandon R.C., Rogers Y.H., Blazej R.G., Champe M., Pfeiffer B.D., RA Barandon R.C., Rogers Y.H., Blazej R.G., Champe M., Pfeiffer B.D., RA Barandon R.C., Rogers Y.H., Blazej R.G., Champe M., Pfeiffer B.D., RA Barandon R.C., Rogers Y.H., Blazej R.G., Champe M., Pfeiffer B.D., RA Barandon R.C., Rogers Y.H., Blazej R.G., Champe M., Pfeiffer B.D., RA Barandon R.C., Rogers Y.H., Blazej R.G., Champe M., Pfeiffer B.D., RA Barandon R.C., Rogers R.G., Helt G., Nelson C.R., Gabor G.L., RA Baril J.F., Agbayani A., An H.J., Andrews-Pfannkoch C., Baldwin D., RA Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M., RA Baril J.F., Agbayani A., An H.J., Andrews-Pfannkoch C., Baldwin D., RA Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M., RA Borkova D., Betchan M.R., Bouck J., Brokstein P., Brottier P., RA Borkova D., Betchan M.R., Bouck J., Brokstein P., Brottier P., Cadley S., Dahlke C., Davenport L.B., Davies P., Carly S., Dahlke C., Davenport L.B., Davies P., RA Ghore R., Doup L.E., Downes M., Duyan-Rocha S., Dunkov B.C., Dunn P., RA Ghosen K., Doup L.E., Downes M., Duyan-Rocha S., Dunkov B.C., Dunn P., RA Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M., Fletschmann W., RA Fosler C., Gabrielian A.E., Garg N.S., Gelbart W.M., Glasser K., RA Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J., Howland T.J., Weinston J.A., Ketchum K.A., RA Kinmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z., Liang Y., Lin X., RA Liu X., Mattei B., McIntosh T.C., McLeod M.P., McPherson D.L., Ra Liu X., McLintosh T.C., McLeod M.P., McPherson D.L., Ra Allei B., Kodira C.D., Kraft C., Kravitz J., Pacie B.J.M., Glasser M.G., Ra Kulp D., Lin X., Nixon K., Nusskern D.R., Pacieb J.M., 
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Best Local
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QBINF9;
01-MAR-2003 (TrEMBLrel. 2
01-MAR-2003 (TrEMBLrel. 2
01-MAR-2004 (TrEMBLrel. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Neoptera; Endopterygota; Dip
Ephydroidea; Drosophilidae;
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Eukaryota; Metazoa; Arthropoda;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CG8651-PB (Cg8651-pc).
Name=trx; ORFNames=CG8651;
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9; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PubMed=10731132; DOI=10.1126/science.287.5461.2185;
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No.
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                     Smith H.O.,
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R772 R 772 R
InterPro; IPRO03888; FYRICh C.
InterPro; IPRO03818; FYRICh N.
InterPro; IPRO03516; PostSET.
InterPro; IPRO01214; SET.
InterPro; IPRO0114; SET.
InterPro; IPRO011965; Znf_PHD.
InterPro; IPRO01965; Znf_PHD.
InterPro; IPRO01965; Znf_PHD.
InterPro; IPRO01965; Znf_PHD.
InterPro; IPRO01965; FYRC; 1.
Pfam; PF005965; FYRC; 1.
Pfam; PF00528; PHD; 3.
Pfam; PF00628; PHD; 3.
Pfam; PF00628; PHD; 3.
Pfam; PF00628; PHD; 4.
SWART; SW00542; FYRC; 1.
SWART; SW00541; FYRN; 1.
SWART; SW00549; PHD; 4.
SWART; SW00549; PHD; 4.
SWART; SW00549; PHD; 4.
SWART; SW00549; POST SET; 1.
PROSITE; PS50280; SET; 1.
PROSITE; PS50280; SET; 1.
PROSITE; PS50280; SET; 1.
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GO; GO:00
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Genome Biol. 3:RESEARCH0079-RESEARCH0079 (2002).
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[2]
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"The transposable elements of the a genomics perspective.";
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GO:0035097; C:histone methyltransferase complex;
GO:0042800; F:histone lysine N-methyltransferase
GO:0016571; P:histone methylation; IDA.
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L; AE003704; AAN13600.1;
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70; PubMed=12537573;
Bergman C.M., Kronmiller
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M.A., Mungall C.J., Matthews B.B., Campbell K.S.,
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Frise E., Hodgson A
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[2]
SEQUENCE FROM N.A.
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MEDLINE=22426065; PubMed=12537560;
MEDLINE=22426065; PubMed=12537560;
Celniker S.E., Wheeler D.A., Kronmiller B., Carro,
Celniker S.E., Wheeler D.A., Kronmiller B., Carro,
Celniker S.E., Wheeler D.A., Laverty T., Muzny D.M.
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                                               Carlson J.W., Halpern Frise E., Hodgson A., D.M., Nelson C.R.,
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R GO; GO:0035997; C:histone methyltransferase complex; IDA
R GO; GO:0042800; F:histone methylation; IDA.
R GO; GO:0042800; F:histone methylation; IDA.
R GO; GO:004571; P:histone methylation; IDA.
R InterPro; IPR003889; FYrich_C.
R InterPro; IPR003689; FYrich_N.
R InterPro; IPR003614; SET.
R InterPro; IPR001214; SET.
R InterPro; IPR0011902; Trx_SET_Metrans.
R InterPro; IPR0011903; Trx_SET_Metrans.
R InterPro; IPR0011903; Trx_SET_Metrans.
R InterPro; IPR0011903; Trx_SET_Metrans.
R Pfam; PF05964; FYRC; 1.
R Pfam; PF05964; FYRC; 1.
R Pfam; PF00856; SET; 1.
R Pfam; PF00856; SET; 1.
R Pfam; PF00856; PFR0; 1.
R SMART; SM00541; FYRN; 1.
R SMART; SM00542; FYRC; 1.
R SMART; SM00541; RING; 4.
R SMART; SM001104; RING; 4.
R PROSTTER: PSCR668: POST SET: 1.
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-- SIMILARITY: Contains 1 SET

EMBL; AE003704; ARFS5041.2; --

HSSP; Q8X225; 1PEG.
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Misra S., Crosby M.A., Mungall C.J., Matthews B.B., Campbell K.S.,
Misra S., Crosby M.A., Mungall C.J., Milburn G.H., Prochnik S.E.
Smith C.D., Tupy J.L., Whitfied E.J., Bayraktaroglu L., Berman B.P.
Smith C.D., Tupy J.L., Whitfied E.J., Bayraktaroglu L., Berman B.P.
Settencourt B.R., Celniker S.E., de Grey A.D., Drysdale R.A.,
Harris N.L., Richter J., Russo S., Schroeder A.J., Shu S.O.,
Stapleton M., Yamada C., Ashburner M., Gelbart W.M., Rubin G.M.,
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MEDLIND=22426070; PubMed=12537573;

MEDLIND=22426070; PubMed=12537573;

Kaminker J.B., Bergman C.M., Kronmiller B., Carlson J., Svirskas R.,

Patel S., Prise B., Wheeler D.A., Lewis S.E., Rubin G.M.,

Patel S., Prise B., Wheeler D.A., Lewis S.E., Rubin G.M.,

Patel S., Prise B., Wheeler D.A., Lewis S.E., Rubin G.M.,

Patel S., Prise B., Wheeler D.A., Lewis S.E., Rubin G.M.,

"The transpossble elements of the Drosophila melanogaster euchromatin:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A. FlyBase;
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enome Biol. 3:RESEARCH0084-RESEARCH0084(2002).
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; PS50280; SET; 1.
; PS501359; ZE PHD_1; 4.
; PS50016; ZF PHD_2; 1.
; PS50016; ZF PHD_2; 1.
                                                         Similarity
8; Conserv
SMGSGLNLSEPN
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                                                         Conservative
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SET domain.
                                                       Score 42; DB
Pred. No. 7.7e
2; Mismatches
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activity.
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R.A.,
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RESULT 15
YGEF ECOLI STANDARD; PRT; 148
ID YGEF ECOLI STANDARD; PRT; 148
AC Q46786;
DT 01-NOV-1997 (Rel. 35, Created)
DT 01-NOV-1997 (Rel. 35, Last sequence upda
DT 25-JAN-2005 (Rel. 46, Last annotation up
DE Hypothetical protein ygeF.
GN Name=ygeF; OrderedLocusNames=b2850;
GN Name=ygeF; OrderedLocusNames=b2850;
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STRAIN=K12 / MG1655;

STRAIN=R12 / MG1655;

STRAIN=R126/Science.277.5331.1453;

Blatther F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burland V.,

Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F.,

Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F.,

Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F.,
                                                                                                                                                                                                                                                      EMBL; U28375; AAA83032.1;
EMBL; U00096; AAC75889.1;
PIR; C65068; C65068.
EchoBASE; EB2851; -.
                                                                                                                                                                                                                                                                                                                                      the European Bioinformatics Institute. The use by non-profit institutions as not removed modified and this statement is not removed. entitles requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rosman B., Shao Y.;
"The complete genome sequence of Escherichia coli K-12.";
Science 277:1453-1474(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EN
                                                                                                                                                                                                                                          EcoGene;
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Enterobacteriaceae; Escherichia.
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                                                                                                                                                       Similarity
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proteome; Hypothetical protein.
148 AA; 16878 MW; 59D6F53C973614DF CRC64;
                                                                   KITMGSGLNYIE
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  (See http://www.isb-sib.ch/announce/
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1: geneseqp1980s:*
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Gapop 10.0 ,
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74
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first 45 summaries
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### SUMMARIES

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Abr30870	Abr30379	Abr31569	Abr30664	Abr30735	Abr31106	Abr31310	Aag78238	Adr03214	Ad183494	Adf45270	Adf45271	Ade14646	Abw00017	Abw00016	Abj36773	Abj36774	Aau03316	Aau02673	UCA1947
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# ALIGNMENTS

ADG46077 standard; peptide; 15

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RESULT 1
ADG46077
ID ADG4
XX ADG1
XX Huma
XX Homo
XX Homo
XX Homo
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XX ADG6
XX A 05-JUL-2002; 2002DE-01030550 07-JAN-2004. antibody; carbohydrate-deficient transferrin; CDT; non-glycosylated transferrin; alcoholism; alcoholic; diagnosis; human. Human CDT peptide Althaus H; EP1378521-A1. Homo sapiens 25-MAR-2004 (first entry) ADG46077; (DADE-) DADE BEHRING MARBURG GMBH. 19-MAY-2003; 2003EP-00011334. fragment #3

New antibody specific for carbohydrate-deficient transferrin, useful for diagnosis of alcoholism, can bind its target in solution, eliminating need for immobilization.

WPI; 2004-073743/08.

Claim 4; SEQ ID NO 3; 21pp; German.

This invention describes a novel antibody that, in aqueous solution, binds selectively to carbohydrate-deficient transferrin (CDT) without having to bind CDT to a solid phase. The invention also describes an antibody that binds selectively to CDT at regions containing the sequences VVARSMGGKEDLIWELL, TTEDSIAKIMNGEADAMSLDGGF, SKLSMGSGLNLSEPN and YEXYLGEEYVKAV (ADG46075-ADG46078) and an immunoassay for detecting CDT using the antibodies of the invention. The antibodies of the invention are monoclonal, specifically from hybridomas DSM ACC2540 or 2541. The antibodies are obtained by immunisation with non-glycosylated transferrin, or a fragment, then generation of hybridomas by standard fusion of spleen and myeloma cells. Hybridomas are then selected for production of antibodies that specifically bind CDT from the aqueous phase. The antibodies are useful for diagnosis of alcoholism, CDT, which

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This invention describes a novel antibody that, in aqueous solution, thinds selectively to carbohydrate-deficient transferrin (CDT) without having to bind CDT to a solid phase. The invention also describes an antibody that binds selectively to CDT at regions containing the antibody that binds selectively to CDT at regions containing the CC sequences VVARSMGGKEDLIWELL, TTEDSIAKINGEADAMSLOGGF, SKLSMGSGLNLSERN and CYEKYLGEEYVKAV (ADG46075-ADG46078) and an immunoassay for detecting CDT cusing the antibodies of the invention. The antibodies of the invention are monoclonal, specifically from hybridomas DSM ACC2540 or 2541. The antibodies are obtained by immunisation with non-glycosylated curansferrin, or a fragment, then generation of hybridomas by standard fusion of spleen and myeloma cells. Hybridomas are then selected for production of antibodies that specifically bind CDT from the aqueous phase. The antibodies are useful for diagnosis of alcoholism, CDT, which clacks glycosylation at Asn413 and/or Asn 611, is present only in alcoholics. The antibodies allow direct detection of CDT in solution, celiminating the need for immobilising it on a solid phase (as required when using known antibodies). ADG46075-ADG4694 represent CDT peptide for fragments used in the method of the invention.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example 7; Page 15; 21pp; German
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New antibody specific for carbohydrate-deficient transferrin, useful for diagnosis of alcoholism, can bind its target in solution, eliminating
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         antibody; carbohydrate-deficient transferrin; CDT;
non-glycosylated transferrin; alcoholism; alcoholic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human CDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               25-MAR-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (DADE-) DADE BEHRING MARBURG GMBH.
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Pred. No. 3.3e-06;
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Sequence 13

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RESULT 4 ADR15970 ID ADR1

ADR15970 standard; peptide; 15

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LSMGSGLNLSEPN 15 LCMGSGLNLCEPN 13

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RESULT 3
ADR15909
ID ADR1
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                                                                                             The present invention describes an assay for a protein having at least two isoforms with different glycosylation patterns. The assay involves contacting a sample containing the protein with a proteolytic enzyme, followed by detecting the content or relative content of at least one peptide fragment produced by proteolysis. Also described is a kit for the assay method comprising the proteolytic enzyme and a substrate bound specific binding partner (S1) for at least 2 of the isoforms of the proteins. The method can be used for assaying isoforms of proteins according to their glycosylation pattern to determine their concentration or relative concentration in the sample or material (e.g. blood). The method avoids use of antibodies for distinguishing between glycosylated isoforms of the proteins. The present sequence represents a transferrin peptide fragment which is used in the exemplification of the present
                                                                                                                                                                                                                                                                                                                                            Assay for differentiating protein isoforms to determine their concentrations in sample e.g. blood, involves contacting the sample with proteolytic enzyme to produce peptide fragment by proteolysis followed by
                                                         Sequence 15 AA;
                                                                                                                                                                                                                                                                                                      Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                      Rye PD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             06-FEB-2003; 2003GB-00002740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Synthetic
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (AXIS-) AXIS-SHIELD ASA
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               Similarity
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Conservative
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                                                                                                                                                                                                                                                                                                      15;
               74.3%;
84.6%;
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                                                                                                                                                                                                                                                                                                      English
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*; Pred. No. 0.0
0; Mismatches
Score 55; DB Pred. No. 0.00 0; Mismatches
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               DB 8;
0.0087;
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thes 0;
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RESULT 5
ADS13393
ID ADS1
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AC ADS1
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Best Local &
                                                                                                                                                                                                                                                                                                                                                                                                                               The present invention describes an assay for a protein having at least two isoforms with different glycosylation patterns. The assay involves contacting a sample containing the protein with a proteolytic enzyme, followed by detecting the content or relative content of at least one peptide fragment produced by proteolysis. Also described is a kit for the assay method comprising the proteolytic enzyme and a substrate bound specific binding partner (S1) for at least 2 of the isoforms of the proteins. The method can be used for assaying isoforms of tree according to their glycosylation pattern to determine their concentration or relative concentration in the sample or material (e.g. blood). The method avoids use of antibodies for distinguishing between glycosylated isoforms of the proteins. The present sequence represents a transferrin appetide fragment which is used in the exemplification of the present
                                                                                                                                                                                                                                                                                                                                                                                        Sequence 15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         glycosylation; proteolytic enzyme; proteolysis; detection; transferrin.
                                                                                                                                                                                    ADS13393 standard; peptide; 15
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   WO2004082617-A2
                              Homo sapiens
                                                             rheumatoid arthritis; marker;
                                                                                            Human rheumatoid arthritis marker peptide - SEQ ID 184
                                                                                                                          16-DEC-2004
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                                                                                                                        (first entry)
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                                                                                                                                                                                                                                                                                                                                          74.3%;
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                                                                                                                                                                                                                                                                                                                                          Score 55; DB 8; Length 15; Pred. No. 0.0087;
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                                                            antiinflammtory; antiarthritic
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Best Local S
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                                                                                                                                                                                                                                                                                                                                                                                       ADS13389 standard; peptide; 15 AA
New isolated marker for rheumatoid arthritis, useful in preparing
                                                                                                                                              15-MAR-2004; 2004WO-US007880
                                                                                                                                                                            30-SEP-2004
                                                                                                                                                                                                                                                                   rheumatoid arthritis; marker; antiinflammtory; antiarthritic
                                                                                                                                                                                                                                                                                               Human rheumatoid arthritis marker peptide -
                                                                                                                                                                                                                                                                                                                             16-DEC-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                            ADS13389;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New isolated marker for rheumatoid arthritis, useful in preparing composition for diagnosing or treating rheumatoid arthritis.
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                          WPI; 2004-690929/67
                                                          Kantor AB,
                                                                                                                 14-MAR-2003; 2003US-0455037P
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                                                                                                                                                                                                                                      Homo sapiens
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                                                                                      (SURR-) SURROMED INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (SURR-) SURROMED INC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 LCMGSGLNLCEPN 13
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                                                        Becker CH,
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                                                          Schulman H;
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Pred.
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0.0087;
                                                                                                                                                                                                                                                                                                  SEQ ID
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composition for diagnosing or treating rheumatoid arthritis

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RESULT 7
AAY70486
ID AAY70486
ID AAY70486
ID AAY70486
ID AAY70
AC AAY7
XX AAY7
XX YOL AAY7
XX Huma
KW Anti
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Best Local S
Matches 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       selected from one of many (around 400) markers defined in the specification. Rheumatoid arthritis is a chronic infilammatory disorder of the small joints which is estimated to affect 2.1 million people in the United States alone. Current approaches to treat the disease include the use of non-steroidal antiinflammatory drugs (NSAIDS), which may reduce pain, swelling and inflammation, and disease-modifying anti-rheumatic drugs (DMARDS), which act to slow the progression of the disease and avoid further joint injury. These drugs are associated with a number of serious side effects and the search for improved therapeutics is a subject of active research. The marker of the invention demonstrates antiarthritic activity and may be useful in preparing a composition for diagnosing or treating rheumatoid arthritis. The current sequence is that of a human rheumatoid arthritis marker peptide of the invention.
The present sequence is a synthesised peptide of human prothrombin kringle-2 protein which is derived from human plasma prothrombin. Peptides were synthesised having amino acid sequences in order from terminal sequence of prothrombin kringle-2 by overlapping 2-5 amino of both N-terminal and C-terminal of peptides. These peptides were purified by high performance liquid chromatography (HPLC). Kringle
                                                                                                                                                                                                                                          Rhim
                                                                                                                                                     Human prothrombin kringle-1 and kringle-2 polypeptides anglogenesis, useful for treating cancer.
                                                                                                                                                                                                          WPI; 2000-256965/22
                                                                                                                                                                                                                                                                                                                             07-SEP-1998;
                                                                                                                                                                                                                                                                                                                                                             07-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                               16-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 anti-angiogenic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               skin; laryngeal; uterine; colon; lung;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human prothrombin kringle-2; prothrombin; kringle domain; cancer therapy; anti-endothelial cell proliferation; anti-tumour; angiogenesis; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthesised
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    04-JUL-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAY70486;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAY70486 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 15
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                                                                                                                                                                                                                                                                          (KIMS/)
                                                                                                                                                                                                                                                                                                                                                                                                                               WO200014209-A1
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GENOTECH
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                                                                                                                                                                                                                                        Park CS,
                                                                                                                     Page
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   relates to a novel isolated marker for rheumatoid arthritis one of many (around 400) markers defined in the
                                                                                                                                                                                                                                                                                                                             98KR-00036786
                                                                                                                                                                                                                                                                                                                                                             99WO-KR000525
                                                                                                                     19; 43pp; English.
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Pred. No. 0.00
0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  bone
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               marrow; cytostatic;
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RESULT 9 ABJ09159

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RESULT 8
ABJ08867
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                                      Query Match
Best Local S
Matches 6
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Best Local S
Matches 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               domains from prothrombin have anti-endothelial cell proliferation and anti-tumour activities. These inhibit angiogenesis which is involved in tumour growth. They are also useful for the treatment of cancer, e.g. skin, laryngeal, uterine, colon, lung and bone marrow cancer. The human prothrombin kringle-2 significantly suppresses tumour growth in vivo
                                                                             Sequence 9
                                                                                                            The present invention relates to a composition comprising at least hepatitis B virus epitope. This can be used in the production of a vaccine for use in preventing or treating hepatitis B virus infect. The present sequence is a peptide described in the exemplification.
                                                                                                                                                                                  infection, and/or for HBV peptide epitope.
                                                                                                                                                                                             Vaccine composition for treating of infection, and/or for stimulating
                                                                                                                                                                                                                            WPI; 2002-643192/69
                                                                                                                                                                                                                                                                                                            08-SEP-2000; 2000WO-US024802
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                                                                                                                                                                                                                                                                                                                                                                        WO200219986-A1
                                                                                                                                                                                                                                                                                                                                                                                            Hepatitis B virus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 15 AA;
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                                      6,
                                                 Similarity
                                                                                                                                                                                                                                                                                        EPIMMUNE INC
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              GLNLSEPN 15
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GTNLSVPN
                                                                                                                                                                                                                                               Sidney J,
Kubo RT,
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                                                                                                                                                                                                                                                                                                                                                                                                               B virus; HBV;
hepatotropic;
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                                                                                                                                                                Page 178;
                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                              epitope
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Grey HM, Chesnut
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                                                 40
75
                                                                                                                                                               228pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                epitope; vaccine;
antiinflammatory.
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Pred.
                                                 Score 30; DB 5;
Pred. No. 1.8e+06;
                                        Mismatches
                                                                                                                                                                                            or preventing hepatitis B v
g an immune response to HBV,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                No ;
                                                                                                                                                                                                                                                Vitiello MA, nut RW;
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                                                          Length
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                                        Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                           hepatitis;
                                                                                                                                                                                                        virus (HBV)
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RESULT 10
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Best Local S
Matches 6
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Celia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hepatitis virucide;
                                                                             HBV; MHC class I restricted T-cell stimulating peptide; surface peptide; core peptide; polymerase peptide; immunogenic composition; vaccine; cytotoxic T-lymphocyte response; CTL response.
                                                                                                                                                                                                                                                                                                                          Sequence 9 AA;
                                                                                                                                                                                                                                                                                                                                                       The present invention relates to a composition comprising at least one hepatitis B virus epitope. This can be used in the production of a vaccine for use in preventing or treating hepatitis B virus infection. The present sequence is a peptide described in the exemplification of
                  15-JUL-2004
                                       WO2004058807-A2
                                                           Hepatitis B virus.
                                                                                                                       Hepatitis B virus MHC class I restricted T-cell stimulating peptide 173.
                                                                                                                                             07-OCT-2004
                                                                                                                                                                                    ADQ12374 standard; peptide; 9
                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Page 181; 228pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 08-SEP-2000; 2000WO-US024802
                                                                                                                                                                                                                                                                                                                                                                                                                                  HBV peptide epitope.
                                                                                                                                                                                                                                                                                                                                                                                                                                          Vaccine composition for treating or preventing hepatitis B virus (HBV)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2002-643192/69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             08-SEP-2000; 2000WO-US024802
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200219986-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hepatitis B virus.
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                                                                                                                                                                                                                                                                                Similarity 6; Conserv
                                                                                                                                                                                                                                         GTNLSVPN 9
                                                                                                                                                                                                                                                            GLNLSEPN 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sidney J,
Kubo RT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B virus; HBV; hepatotropic;
                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Southwood S, Vitiello MA, Grey HM, Chesnut RW;
                                                                                                                                                                                                                                                                                           40.5%;
75.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    epitope; vaccine; HBV infection; hepatitis;
antlinflammatory.
                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                          Score 30; DB 5;
Pred. No. 1.8e+06;
                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                     Length 9;
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                                                                                                                                                                                                                                                                                 Indels
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09-DEC-2003, 2003WO-EP013948.

The invention comprises major histocompatibility complex (MHC) class I

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RESULT 11
ADQ12375
ID ADQ12
XX ADQ12
XX ADQ12
XX HEV;
XX HEV;
XX HEV;
XX HEV;
XX Cyrcot
OS Hepat
XX WO20(
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Best Local Similarity
Matches 6; Conserv
                                                                                                                                      New peptide comprising a major histocompatibility complex class I restricted T-cell stimulating epitope of the hepatitis B virus (HBV) surface, core and/or polymerase polypeptide, for preparation of an H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The invention comprises major histocompatibility complex (MHC) class I restricted T-cell stimulating epitopes of the hepatitis B virus (HBV) surface, core and polymerase proteins. The peptides of the invention are useful for generating an HBV immunogenic composition (e.g. vaccine) that induces a cytotoxic T-lymphocyte (CTL) response. The present amino acid sequence represents an MHC class I restricted T-cell stimulating HBV
                                                                                                                 surface, core and/or polymerase immunogenic composition.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  core peptide; polymerase peptide; immunogenic composition;
cytotoxic T-lymphocyte response; CTL response.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 07-OCT-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 9 AA;
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                                                       Example 7; SEQ ID NO 174; 108pp; English
                                                                                                                                                                                                                                                                 WPI; 2004-525861/50.
                                                                                                                                                                                                                                                                                                                                                                                                                                         24-DEC-2002; 2002EP-00447276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                09-DEC-2003; 2003WO-EP013948
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HBV; MHC class I restricted T-cell stimulating peptide; surface peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              peptide of the invention.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hepatitis B virus MHC class I restricted T-cell stimulating peptide 174.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADQ12375 standard; peptide; 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example 7; SEQ ID NO 173; 108pp; English
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                                                                                                                                                                                                                                                                                                                                                                                  (ALGO-) ALGONOMICS NV.
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                                                                                                                           A hybrid immunogen comprises a T-cell stimulatory epitope from HBsAg/t pre-S(1) (AAR38384) and a cyclic HIV principal neutralising determinal cPND (AAR38385). The two components may be linked via an intervening sequence of 1-4 amino acids which may include a maker amino acid. The hybrid immunogen is used to induce anti-HIV PND, anti-HIV or HIV-neutralising immune response. (Updated on 25-MAR-2003 to correct PN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      restricted T-cell stimulating epitopes of the hepatitis B virus (HBV) surface, core and polymerase proteins. The peptides of the invention are useful for generating an HBV immunogenic composition (e.g. vaccine) that induces a cytotoxic T-lymphocyte (CTL) response. The present amino acid sequence represents an MHC class I restricted T-cell stimulating HBV peptide of the invention.
                                                                                           Sequence 10
                                                                                                                                                                                                           Claim 3; Page
                                                                                                                                                                                                                                Hybrid immunogens for treatment or prevention of HIV - comprise cyclic HIV principal neutralising determinant and T cell stimulatory epitope hepatitis B.
                                                                                                                                                                                                                                                                                 WPI; 1993-198695/25.
                                                                                                                                                                                                                                                                                                      Hannah
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                                                                                                                                                                                                                                                                                                                                                                                                                                              Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hybrid; immunogen; T-cell; epitope; antigen; HIV; cyclic;
principal neutralising determinant; cPND; hepatitis-B pre-S(1); antibody;
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21-OCT-1993
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Celis E,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The present invention relates to a composition comprising at least hepatitis B virus epitope. This can be used in the production of a vaccine for use in preventing or treating hepatitis B virus infection. The present sequence is a peptide described in the exemplification.
                                                                                                                                                                                                                Hepatitis B virus; HBV; virucide; hepatotropic;
                                                                                                                                                                                                                                                                                                                            Hepatitis B virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABJ07286 standard; peptide; 10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Vaccine composition for treating or preventing hepatitis B virus (HBV) infection, and/or for stimulating an immune response to HBV, comprises a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2002-643192/69
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                                                                          WO200219986-A1
                                                                                                                                             Hepatitis B virus
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Grey HM, Chesnut
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nut RW;
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                                       Vaccine composition for treating or preventing hepatitis B virus (HBV) infection, and/or for stimulating an immune response to HBV, comprises
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                                                                                                                                                                                                                                    Hepatitis B virus.
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                               HBV peptide epitope.
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SETTE A.
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                                                                                         Sidney J,
Kubo RT,
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Kubo RT,
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                                                                                         Southwood S, Vitiello MA, Grey HM, Chesnut RW;
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Grey HM, (
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Disclosure; Page 115; 228pp;

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                                                                                                           Sequence 10 AA;
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                                                                  Score 30;
Pred. No.
                                                       Mismatches
                                                                  DB 5; 1
1.7e+02;
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Search completed: November Job time : 163 secs 1, 2005, 14:11:44

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Result
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Perfect score:
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Maximum Match
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     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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Match Length
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3: /cgn2_6/ptodata/1/laa/6B_COMB.pep:*
4: /cgn2_6/ptodata/1/laa/6B_COMB.pep:*
5: /cgn2_6/ptodata/1/laa/PCTUS_COMB.pep:*
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Listing first 45 summaries
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US-09-239-043D-257 Query Match

40.5%;

Score 30;

DB 4;

Length 10;

LENGTH: 10
TYPE: PRT
ORGANISM: Orthohepadnaviridae hepatitis

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RESULT 1 US-09-239-0431 US-09-239-0431 Sequence 25: Patent No. 0 GENERAL INFR APPLICANT: APPLICA APPLI PRIOR APPLI	22866666666666666666666666666666666666
9-043D-257 10-0257, Applica 10-0257, App	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
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Respons ic Acid	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
es to Hepatitis Compositions	sequence patent No. Sequence
le B Virus	35, Appl 5178861 6, Appli 23, Appl 2120, Appl 2120, Appl 2120, Appl 2120, Appl 2120, Appl 2121, Appl 372, Appl 372, Appl 373, Appl 374, Appl 375, Appl 376, Appl 377, Appl 377, Appl 377, Appl 378, Appl 379, Appl 379, Appl 379, Appl 379, Appl 379, Appl

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RESULT 3
US-09-239-043D-1374
Sequence 1374, Application US/09239043D
Patent No. 6689363
Patent No. 6689363
GENERAL INFORMATION:
APPLICANT: Sette, Alessandro
APPLICANT: Sidney, John
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; ORGANISM: Orthohepadnaviridae hepatitis B virus
US-09-239-043D-743
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US-09-239-043D-743
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Matches 6
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Matches
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NUMBER OF SEQ ID NOS: 2579
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 743
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CURRENT APPLICATION UNMBER: US/09/239,043D
CURRENT FILING DATE: 1999-01-27
PRIOR APPLICATION NUMBER: US 09/189,702
PRIOR FILING DATE: 1998-11-10
PRIOR APPLICATION NUMBER: US 08/978,291
PRIOR FILING DATE: 1997-11-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: Inducing Cellular Immune Responses to Hepatitis B Virus TITLE OF INVENTION: Using Peptide and Nucleic Acid Compositions FILE REFERENCE: 2060.0060007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: US 08/820,360
PRIOR FILING DATE: 1997-03-12
PRIOR APPLICATION NUMBER: US 60/013,363
PRIOR FILING DATE: 1996-03-13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US 08/461,603
FILING DATE: 1995-06-05
APPLICATION NUMBER: US 08/347,610
FILING DATE: 1994-12-01
APPLICATION NUMBER: US 08/344,824
FILING DATE: 1994-11-23
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US 08/278,634
FILING DATE: 1994-07-21
APPLICATION NUMBER: US 08/205,713
FILING DATE: 1994-03-04
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6689363
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PRIOR FILING DATE: 1996-03-13
PRIOR APPLICATION NUMBER: US 08/461,603
PRIOR FILING DATE: 1995-06-05
PRIOR APPLICATION NUMBER: US 08/347,610
PRIOR FILING DATE: 1994-12-01
PRIOR PPLICATION NUMBER: US 08/344,824
PRIOR APPLICATION NUMBER: US 08/344,824
PRIOR FILING DATE: 1994-11-23
PRIOR PILING DATE: 1994-07-21
PRIOR FILING DATE: 1994-07-21
PRIOR FILING DATE: 1994-07-21
PRIOR FILING DATE: 1994-07-21
PRIOR PRIOR APPLICATION NUMBER: US 08/205,713
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APPLICANT:
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GENERAL INFORMATION:
APPLICANT: Chesnut, Robert
APPLICANT: Epimmune Inc.
TITLE OF INVENTION: Inducing Cellular Immune Responses to Hepatitis B Virus
TITLE OF INVENTION: Using Peptide and Nucleic Acid Compositions
FILE REFERENCE: 2060.0060007
CURRENT APPLICATION NUMBER: US/09/239,043D
CURRENT FILING DATE: 1999-01-27
PRIOR APPLICATION NUMBER: US 09/189,702
PRIOR FILING DATE: 1998-11-10
                                                                                                                                                                                                                                                                        APPLICANT: Sette, Alessandro APPLICANT: Sidney, John APPLICANT: Southwood, Scott APPLICANT: Vitiello, Maria, APPLICANT: Livingston, Brian
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SOFTWARE: FastSEQ for
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PRIOR APPLICATION NUMBER: US 08/197,484
PRIOR FILING DATE: 1994-02-16
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PRIOR FILING DATE: 1998-11-10
PRIOR APPLICATION NUMBER: US 08/978,291
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PRIOR APPLICATION NUMBER: US 08/820,360
PRIOR FILING DATE: 1997-03-12
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Vitiello, Maria A.
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Celis, Esteban
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Vitiello, Maria A.
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Pred. No. 35;
0; Mismatches
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TITLE OF INVENTION: INHIBITORS OF G PROTEIN-
TITLE OF INVENTION: USES THEREOF
FILE REFERENCE: 0290-29 (NU 99037)
CURRENT APPLICATION NUMBER: US/09/489,156
CURRENT FILING DATE: 2000-01-21
NUMBER OF SEQ ID NOS: 47
SOFTWARE: PATENTIN VERSION 3.0
SEQ ID NO 22
LENGTH: 13
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US-09-489-156-23
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                                                                                                                                                                                        Query Match
Best Local S
Matches 7
           Sequence 23, Application US/09489156 Patent No. 6559128 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Remaining Prior Application data removed - NUMBER OF SEQ ID NOS: 2579 SOFTWARE: PastSEQ for Windows Version 4.0 SEQ ID NO 2101
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Patent No. 6559128
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Best Local
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APPLICANT: GILCHRIST,
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APPLICANT: HAMM,
                                                                                                                                                                                                                                                                                      ORGANISM: Artificial FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 15
TYPE: PRT
ORGANISM: Orthohepadnaviridae hepatitis B virus
                                                                                                                                                                                                                                                                      OTHER INFORMATION: G alpha 11 peptide
                                                                                                                                                                                                                                                                                                                       TYPE: PRT
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Local Similarity 75.0%;
les 6; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 1994-11-23
APPLICATION NUMBER: US 08/278,634
FILING DATE: 1994-07-21
APPLICATION NUMBER: US 08/205,713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US 08/978,291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE: 1994-03-04
APPLICATION NUMBER: US 08/197,484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US 08/347,610 FILING DATE: 1994-12-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US 60/013,363 FILING DATE: 1996-03-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 1997-11-25
APPLICATION NUMBER: US 08/820,360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US 08/344,824
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US 08/461,603
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7; Conserv
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                                                                                                                           MGLQLNLKEYN
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                                                                                                                                                                                          Conservative
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                                                                                                                                                                                                                                                                                                   Sequence
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Pred. No.
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Pred. No. 56;
                                                                                                                                                                                          Pred. No. 72;
); Mismatches
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US-08-462-949-11
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US-09-693-746-124
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SEQ ID NO 124
LENGTH: 13
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SEQ ID NO 23
LENCTH: 13
TYPE: PRT
                                                                                                             Sequence 11, Applicat:
Patent No. 5606022
GENERAL INFORMATION:
APPLICANT: Rasmuss
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GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                           Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILE REFERENCE: 6297.1cp
CURRENT APPLICATION NUMBER: US/09/693,746
CURRENT FILLING DATE: 2000-10-20
PRIOR APPLICATION NUMBER: 09/425,676
PRIOR FILING DATE: 1999-10-22
NUMBER OF SEQ ID NOS: 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: Drosophila G Protein TITLE OF INVENTION: Related To The FILE REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Lowery, David E.
APPLICANT: Smith, Valdin G.
APPLICANT: Kubiak, Teresa M.
APPLICANT: Larsen, Martha J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: INHIBITORS OF G PROTE:
TITLE OF INVENTION: USES THEREOF
FILE REFERENCE: 0290-29 (NU 99037)
CURRENT APPLICATION NUMBER: US/09/489,156
CURRENT FILING DATE: 2000-01-21
NUMBER OF SEQ ID NOS: 47
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                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION: No. 6835546el Sequence
                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Artificial Sequence FEATURE:
NUMBER OF SEQUENCES: 39
CORRESPONDENCE ADDRESS:
ADDRESSEE: Darby & Darby P.C.
STREET: 805 Third Avenue
                                                            APPLICANT: Rasmussen, Beth Ann
TITLE OF INVENTION: Cloning and Identification
TITLE OF INVENTION: Component Signal Transducir
TITLE OF INVENTION: Bactoroides Fragilis
                                                                                                                                                                                                                                                                                                                          Local Similarity
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                                                                                                                                                             Application US/08462949
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ilarity 55.6%;
Conservative
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                                                                                                                                                                                                                                                                                                                        Score 29;
Pred. No.
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Pred. No.
                                                       t Signal Tram
des Fragilis
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                                                                               Transducing
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72;
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy

CITY: Ne STATE: N COUNTRY:

New York U.S.A.

New York

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RESULT 9
US-08-023-764B-11
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Best Local Similarity 85..
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 11, Application US/08023764B Patent No. 5679540 GENERAL INFORMATION:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: BatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/023,764B
FILING DATE: 26-FEB-1993
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Barnhard, Elizabeth M.
REGISTRATION NUMBER: 31,088
REFERENCE/DOCKET NUMBER: 31,658-00
                                                                                                                                                                                                      STREET: One Cyanamid Pla
CITY: Wayne
STATE: New Jersey
COUNTRY: United States
ZIP: 07470-8426
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy dis)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-527-7700
TELEFAX: 201-753-6237
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES: 39
CORRESPONDENCE ADDRESS:
ADDRESSEE: American Cyanamid Company
ADDRESSEE: Cyanamid Plaza
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Rasmussen, Beth Ann
TITLE OF INVENTION: Cloning and Identification of a Two
TITLE OF INVENTION: Component Signal Transducing Regulatory System from
TITLE OF INVENTION: Bacteroides Fragilis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: RODINSON, JOSEPH R.
REGISTRATION NUMBER: 33,448
REFERENCE/DOCKET NUMBER: 0646/18024-US1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/462,949
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TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
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85.7%;
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Pred. No. 81;
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US-08-200-900A-23
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                                                    Matches
                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 23, Application US/08200900A
Patent No. 5665566
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: (201)831-3305
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:
NAME: Meinert, Maureen C.
REGISTRATION UNMBER: 31,544
REFERENCE/DOCKET NUMBER: GI 5
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 876-1170 X85
TELEPHONE: (617) 876-5851
INFORMATION FOR SEQ ID NO: 23:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
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HYPOTHETICAL: N
ANTI-SENSE: NO
                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25 (EPO)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/200,900A
FILING DATE: 23-FEB-1994
CLASSIFICATION: 435
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                    ZIP: 02140
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES: 38
CORRESPONDENCE ADDRESS: Cenetics Institute, Inc.
STREET: 87 CambridgePark Drive
                                                                                                                  TOPOLOGY: linear MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: 6, Cambridge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION:
                                                               Local
                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 10 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
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                         6 GSGLNLSEP 14
                                                  Similarity
5; Conserv
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                                                  Conservative
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                                                               36.5%;
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                                                  Score 27; DB 1; Le
Pred. No. 1.7e+02;
1; Mismatches 3;
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    Legal Affairs

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TITLE OF INVENTION: INHIBITORS OF G PROTEIN-MEDIATED SIGNALING, METHODS OF MAKING THE
TITLE OF INVENTION: USES THEREOF
FILE REFERENCE: 0290-29 (NU 99037)
CURRENT APPLICATION UMBER: US/09/489,156
CURRENT FILING DATE: 2000-01-21
NUMBER OF SEQ ID NOS: 47
SOFTWARE: Patentin version 3.0
SEQ ID NO 25
LENGTH: 17
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; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: G alpha 14 peptide
US-09-489-156-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-794-042-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 12
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; Sequence 25, A
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Sequence 23, Apr-
No. 6746859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local (
                                           TELEFAX: (617) 876-5851
INFORMATION FOR SEQ ID NO: 23:
SEQUENCE CHARACTERISTICS:
LENGTH: 13 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: CLANUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
                                                                                                                              NAME: Meinert, Maureen C.
REGISTRATION NUMBER: 31,544
REGERENCE/DOCKET NUMBER: GI 5201-FWC
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 876-1170 X8574
                                                                                                                                                                                                                       FILING DATE:
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                             SOFTWARE: PatentIn Release #1.0, Version #1.25 (EPO) CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
 MOLECULE TYPE:
                STRANDEDNESS: single TOPOLOGY: linear
                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: FILING DATE: CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET: 87 Cambridge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY: US
ZIP: 02140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity 63. 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MGLQLNLREFN 11
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87 CambridgePark Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    USA
protein
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1.7e+02;

    Legal Affairs

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TITLE OF INVENTION: HUMANS AND METHODS FOR CONSTRUCTING, IDENTIFYING ANI
TITLE OF INVENTION: HUMANS AND METHODS FOR CONSTRUCTING, IDENTIFYING ANI
TITLE OF INVENTION: PRODUCING SUCH PROTEINS
FILE REFERENCE: GC527
CURRENT APPLICATION NUMBER: US/09/255,501
CURRENT FILING DATE: 1999-02-23
NUMBER OF SEQ ID NOS: 211
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 96
LENGTH: 1-1
                                                                                       ; OTHER INFORMATION: Description of Artificial Sequence: Synthetic US-09-255-501-96
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US-09-255-501-96
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                             Query Match
Best Local S
Matches 5
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Best Local S
Matches 5
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Best Local Similarity 55.6%;
Matches 5; Conservative
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INFORMATION FOR SEQ ID NO: 2
SEQUENCE CHARACTERISTICS:
LENGTH: 13 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 23, Application PC/TUS9400616 GENERAL INFORMATION:
                                                                                                                 TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: PatentIn Release #1.0, Version CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US94/00616
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: CLONIN NUMBER OF SEQUENCES: 33 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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 1 SKLSMGSG
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                             Similarity 5; Conserv
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                               Conservative
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                                           36.5%;
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                             Score 27; DB 4;
Pred. No. 2e+02;
2; Mismatches
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Pred. No.
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Pred. No.
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                                                         Length 15
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                             Indels
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ASLSLGSG 12

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US-09-255-501-97
US-09-255-501-97
Sequence 97, Application US/0925501
Patent No. 659525
GENERAL INFORMATION:
APPLICANT: Estell, David
APPLICANT: Estell, David
APPLICANT: Estell, David
APPLICANT: Harding, Flona
ITITLE OF INVENTION: HUMANS AND METHODS FOR CONSTRUCTING, IDENTIFYING AND
ITITLE OF INVENTION: HUMANS AND METHODS FOR CONSTRUCTING, IDENTIFYING AND
ITITLE OF INVENTION: HUMANS AND METHODS FOR CONSTRUCTING, IDENTIFYING AND
ITITLE OF INVENTION: PRODUCING SUCH PROTEINS
FILE REFERENCE: GC527
CURRENT APPLICATION NUMBER: US/09/255,501
CURRENT APPLICATION NUMBER: US/09/255,501
CURRENT APPLICATION PRODUCING SUCH PROTEINS
INVENT APPLICATION PROTEINS
INVENT AP
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Minimum DB seq length: 0
Maximum DB seq length: 15
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Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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Published Applications AA:*

1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*

2: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*

3: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*

4: /cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep:*

5: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*

6: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*

7: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*

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12: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*

13: /cgn2_6/ptodata/1/pubpaa/US108_PUBCOMB.pep:*

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16: /cgn2_6/ptodata/1/pubpaa/US108_PUBCOMB.pep:*

17: /cgn2_6/ptodata/1/pubpaa/US108_PUBCOMB.pep:*

18: /cgn2_6/ptodata/1/pubpaa/US108_PUBCOMB.pep:*

19: /cgn2_6/ptodata/1/pubpaa/US11A_PUBCOMB.pep:*

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20: /cgn2_6/ptodata/1/pubpaa/US11A_PUBCOMB.pep:*

21: /cgn2_6/ptodata/1/pubpaa/US11A_PUBCOMB.pep:*

22: /cgn2_6/ptodata/1/pubpaa/US108_PUBCOMB.pep:*

23: /cgn2_6/ptodata/1/pubpaa/US108_PUBCOMB.pep:*

24: /cgn2_6/ptodata/1/pubpaa/US108_PUBCOMB.pep:*

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

:	Res
146699644	Result No.
7 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	Score
100.0 744.3 744.3 744.3 444.6 40.5 50.5 50.5	Query Match
15 15 15 15 16 17 10 10	Query Match Length DB
15 16 17 17 17 17 17	BO
US-10-612-162-3 US-10-769-514-10 US-10-769-514-42 US-10-801-990-180 US-10-801-990-184 US-10-059-271-37 US-10-992-351-3 US-10-654-601-257 US-10-654-601-743 US-10-654-601-1374 US-10-654-601-2101	ID
Sequence 3, Appli Sequence 10, Appl Sequence 42, Appl Sequence 180, App Sequence 184, Appl Sequence 37, Appl Sequence 37, Appl Sequence 277, App Sequence 273, App Sequence 1374, Ap Sequence 1374, Ap	Description

RESULT 2 US-10-769-514-10

<b>4</b> 5	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	;
26	26	26	26	26	27	27	27	27	27	27	27	27	27	27	27	28	28	28	28	28	28	28	28	29	29	29	29	29	29	29	29	29	;
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-10-005-480A-48	-005-480A-3	-10-062-109A-57	-10-062-109A-48	-10-062-109A-39	-11-020-628-9	-11-020-628-	-10-924-092A-9	-10-924-092A-	-10-769-514-	-10-862-195-	-10-769-514-	-10-327-598-	-10-373-540-	-10-356-257-	-10-296-317-	-10-769-514-	-10-153-244-25	-10-153-244-	-10-153-244-15	-10-153-244-	-10-785-819-	0-970-242	-10-795-676-	-10-736-048-12	0-411-336A-1	-10-411-336A-1	-10-213-821-	-10-373-54	-10-373-540-	-10-283-423-12	-09-852-910-	52-910-11	
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#### ALIGNMENTS

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RESULT 1

US-10-612-162-3

Sequence 3, Application US/10612162

Publication No. US20040014145A1

GENERAL INFORMATION:

APPLICANT: Dade Behring Marburg GmbH

TITLE OF INVENTION: antibodies, their preparation and use

FILE REFERENCE: 2002/B001

CURRENT PILLING DATE: 2003-07-03

PRIOR APPLICATION NUMBER: US/10/612,162

CURRENT FILING DATE: 2003-07-03

PRIOR APPLICATION NUMBER: 10230550.1

PRIOR APPLICATION NUMBER: 03011334.4

PRIOR FILING DATE: 2003-05-19

NUMBER OF SEQ ID NOS: 4

SOFTWARE: Patentin Ver. 2.1

SEQ ID NO 3

LENGTH: 15

TYPE: PRT

ORGANISM: Homo sapiens

US-10-612-162-3

Query Match

Best Local Similarity 100.0%; Score 74; DB 15; Length 15;

Best Local Similarity 100.0%; Pred. No. 3.1e-06;

Matches 15; Conservative 0; Mismatches 0; Gaps

ON 1 SKLSMGSCLNLSEPN 15

DB 1 SKLSMGSCLNLSEPN 15

ON 1 SKLSMGSCLNLSEPN 15
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US-10-769-514-42
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US-10-769-514-42
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-769-514-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATI'S Schryvers, Anthony
TITLE OF INVENTION: Transferrin Binding Peptides and Uses Thereof
FILE APPLICATION UNMBER: US/10/769,514
CURRENT APPLICATION NUMBER: US 60/444,113
PRIOR APPLICATION NUMBER: US 60/444,113
PRIOR FILING DATE: 2003-01-31
NUMBER OF SEQ ID NOS: 86
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 10
                                                                                                                                                                                              Sequence 180, Application US/10801990 Publication No. US20050048574A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
APPLICANT: Schryvers, Anthony
TITLE OF INVENTION: Transferrin Binding Peptides and Uses Thereof
FILE REFERENCE: 028722-001
CURRENT APPLICATION NUMBER: US/10/769,514
CURRENT FILING DATE: 2004-01-30
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 74.3%;
Best Local Similarity 84.6%;
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CURRENT APPLICATION NUMBER: US/10/801,990
CURRENT FILING DATE: 2004-03-15
PRIOR APPLICATION NUMBER: US 60/455,037
PRIOR FILING DATE: 2003-03-14
NUMBER OF SEQ ID NOS: 395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION NUMBER: US 60/444,113
PRIOR FILING DATE: 2003-01-31
NUMBER OF SEQ ID NOS: 86
                                                                                               APPLICANT: Kantor, Aaron B.
APPLICANT: Schulman, Howard
APPLICANT: Becker, Christopher
TITLE OF INVENTION: BIOMARKERS FOR RHEUMATOID ARTHRITIS
FILE REFERENCE: SURR.121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: FASTSEQ for Windows Version 4.0 IEQ ID NO 42 LENGTH: 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                               3 LSMGSGLNLSEPN 15
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84.6%;
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Pred. No. 0.0082;
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-801-990-180
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic; OTHER INFORMATION: peptide
US-10-059-271-37
                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 6
US-10-059-271-37
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US-10-801-990-184
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APPLICANT: Kantor, Aaron B.
APPLICANT: Schulman, Howard
APPLICANT: Bocker, Christopher
TITLE OF INVENTION: BIOMARKERS FOR RHEUMATOID ARTHRITIS
FILE REFERENCE: SURR.121
                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
APPLICANT: REPKE, HEINRICH
APPLICANT: BUDDE, ECKHARD
APPLICANT: NICOLAUS, STEEJ
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                                                                                                                                 SEQ ID NO 37
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Best Local :
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                                                                                                                                              FILE REFERENCE: ALBRE-22
CURRENT APPLICATION NUMBER: US/10/059,271
CURRENT FILING DATE: 2002-01-31
PRIOR APPLICATION NUMBER: DE 101 06 295
PRIOR FILING DATE: 2001-02-02
NUMBER OF SEQ ID NOS: 97
NUMBER OF SEQ ID NOS: 97
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                               APPLICANT: NICOLAUS, STEFAN
TITLE OF INVENTION: PROTEIN HAVING MULTIPLE ANTIGEN/EPITOPE SEQUENCES AND
TITLE OF INVENTION: BEING IMMOBILIZED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQ ID NOS: 395
SOFTWARE: PatentIn version 3.2
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CURRENT FILING DATE: 2004-03-15
PRIOR APPLICATION NUMBER: US 60/455,037
PRIOR FILING DATE: 2003-03-14
                                                                        ORGANISM: Artificial Sequence
                                                                                               TYPE: PRT
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Pred. No. 0.0082;
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Pred. No. 0.0082;
); Mismatches 2
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-992-351-3
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                                                                                                                                          CURRENT APPLICATION NUMBER: US/10/654,601
CURRENT FILING DATE: 2003-09-04
PRIOR APPLICATION NUMBER: US/09/239,043
PRIOR FILING DATE: 1999-01-27
PRIOR APPLICATION NUMBER: US 09/189,702
PRIOR FILING DATE: 1999-11-10
PRIOR APPLICATION NUMBER: US 08/978,291
PRIOR APPLICATION NUMBER: US 08/978,291
PRIOR APPLICATION NUMBER: US 08/978,360
PRIOR FILING DATE: 1997-03-12
PRIOR FILING DATE: 1997-03-12
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TITLE OF INVENTION: Antibodies directed against prothrombin fragment F1+2, the prepar
TITLE OF INVENTION: And use thereof
FILE REFERENCE: 05552.1454
CURRENT APPLICATION NUMBER: US/10/992,351
CURRENT FILING DATE: 2004-11-19
NUMBER OF SEQ ID NOS: 9
SOFTWARE: Patentin version 3.1
SEQ ID NO 3
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Matches
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Best Local (
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                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: Inducing Cellular Immune Responses to Hepatitis B Virus TITLE OF INVENTION: Using Peptide and Nucleic Acid Compositions FILE REFERENCE: 2060.0060007
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                                                                                    APPLICATION NUMBER: US 60/013,363
FILING DATE: 1996-03-13
APPLICATION NUMBER: US 08/461,603
                                                  APPLICATION NUMBER: US 08/347,610
                                                                      FILING DATE: 1995-06-05
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6; Conserv
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Vitiello, Maria A.
                                                                                                                                                                                                                                                                                                                                                                                                                                    Grey, Howard M.
                                                                                                                                                                                                                                                                                                                                                                                              Chesnut, Robert
Epimmune Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Kubo, Ralph T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Livingston, Brian D.
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1994-12-01
US 08/344,824
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41.7%;
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Pred. No. 1.5e+02
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APPLICANT: CLEAN, AUDO, RAIGH T.
APPLICANT: Grey, Howard M.
APPLICANT: Chesnut, Robert
APPLICANT: Chesnut, Robert
APPLICANT: Chesnut, Robert
ITILE OF INVENTION: Inducing Cellular Immune Responses to Hepatitis B Virus
TITLE OF INVENTION: Using Peptide and Nucleic Acid Compositions
FILE REFERENCE: 2060.0060007
CURRENT APPLICATION NUMBER: US/10/654,601
CURRENT FILING DATE: 2003-09-04
PRIOR APPLICATION NUMBER: US/09/239,043
PRIOR APPLICATION NUMBER: US/09/239,043
PRIOR FILING DATE: 1999-01-27
PRIOR APPLICATION NUMBER: US 09/189,702
PRIOR FILING DATE: 1998-01-10
PRIOR FILING DATE: 1998-11-25
PRIOR APPLICATION NUMBER: US 08/978,291
PRIOR APPLICATION NUMBER: US 08/978,291
PRIOR FILING DATE: 1997-03-12
PRIOR FILING DATE: 1997-03-12
PRIOR FILING DATE: 1997-03-12
PRIOR FILING DATE: 1996-03-3
PRIOR FILING DATE: 1996-03-12
PRIOR FILING DATE: 1996-03-12
PRIOR FILING DATE: 1996-03-12
                                                                        ; TYPE: PRT;
; ORGANISM: Orthohepadnaviridae hepatitis B virus
US-10-654-601-743
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US-10-654-601-743
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                                                                                                                                                                     SOFTWARE: FastSEQ
SEQ ID NO 743
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APPLICANT: Sette, I
APPLICANT: Sidney,
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Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                   PRIOR FILING DATE: 1994-12-01
PRIOR APPLICATION NUMBER: US 08/344,824
PRIOR FILING DATE: 1994-11-23
PRIOR APPLICATION NUMBER: US 08/278,634
PRIOR FILING DATE: 1994-07-21
PRIOR APPLICATION NUMBER: US 08/205,713
PRIOR FILING DATE: 1994-03-04
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PRIOR FILING DATE: 1994-07-21
PRIOR APPLICATION NUMBER: US 08/205,713
PRIOR FILING DATE: 1994-03-04
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TYPE: PRT
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Local Similarity 75.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US 08/461,603
FILING DATE: 1995-06-05
APPLICATION NUMBER: US 08/347,610
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Vitiello, Maria A.
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b. US20050063983A1
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75.0%;
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  Score 30; DB 17;
Pred. No. 1.7e+02;
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                         Length 10
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                                                                                                                      US-10-654-601-2101
                                                                                                                                             RESULT 11
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                                                           Sequence 2101, Application US/10654601 Publication No. US20050063983A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                      Remaining Prior Application data removed -
NUMBER OF SEQ ID NOS: 2579
SOFTWARE: PastSEQ for Windows Version 4.0
SEQ ID NO 1374
LENGTH: 10
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  APPLICANT: Sette, Alessandro APPLICANT: Sidney, John APPLICANT: Southwood, Scott
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: US 08/278,634
PRIOR FILING DATE: 1994-07-21
PRIOR APPLICATION NUMBER: US 08/205,713
PRIOR FILING DATE: 1994-03-04
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PRIOR FILING DATE: 1998-11-10
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FILING DATE: 1997-11-25
APPLICATION NUMBER: US 08/820,360
FILING DATE: 1997-03-12
APPLICATION NUMBER: US 60/013,363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US 08/347,610 FILING DATE: 1994-12-01 APPLICATION NUMBER: US 08/344,824 FILING DATE: 1994-11-23
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Sidney, John
Southwood, Scott
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Ralph T.
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                                                                                                                                                                                                                                                                                                       Score 30;
Pred. No.
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1.7e+02;
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US-10-930-300-93
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; ORGANISM: Orthohepadnaviridae hepatitis B virus
US-10-654-601-2101
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PRIOR APPLICATION NUMBER: US/09/239,043
PRIOR APPLICATION NUMBER: US/09/239,043
PRIOR FILING DATE: 1999-01-27
PRIOR APPLICATION NUMBER: US 09/189,702
PRIOR PRIOR PRILING DATE: 1998-11-10
PRIOR PPLICATION NUMBER: US 08/978,291
PRIOR APPLICATION NUMBER: US 08/978,291
PRIOR FILING DATE: 1997-11-25
PRIOR APPLICATION NUMBER: US 60/013,363
PRIOR APPLICATION NUMBER: US 60/013,363
PRIOR APPLICATION NUMBER: US 08/461,603
PRIOR APPLICATION NUMBER: US 08/461,603
PRIOR APPLICATION NUMBER: US 08/461,603
PRIOR APPLICATION NUMBER: US 08/347,610
PRIOR APPLICATION NUMBER: US 08/344,824
PRIOR FILING DATE: 1994-11-23
PRIOR APPLICATION NUMBER: US 08/344,824
PRIOR PILING DATE: 1994-11-23
PRIOR APPLICATION NUMBER: US 08/378,634
PRIOR APPLICATION NUMBER: US 08/378,634
PRIOR APPLICATION NUMBER: US 08/378,634
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Best Local S
Matches 6
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APPLICANT:
APPLICANT:
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PRIOR APPLICATION NUMBER: US 08/205,713
PRIOR FILING DATE: 1994-03-04
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APPLICANT: Rath,
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COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: WINDOWS 95
SOFTWARE: MS WORD 6.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/930,300
                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy Disk, 3.50 inch,
                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: METHOD OF PRODUCING VACCINES FROM PROTEIN SIGNAL OLIGOPEPTIDES
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                                                                                                                                                           STREET: 280 Colorado Avenue
CITY: Palo Alto
STATE: California
COUNTRY: USA
                                                                                                                                             ZIP: 94301
                                                                                                                                                                                                                                              ADDRESSEE: INHOUSE IP MANAGEMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Epimmune Inc.
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75.0%;
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Pred. No. 2.6e+02;
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RESULT 14
US-09-852-910-115
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NAME/KEY: misc_feature
; LOCATION: (1)...(13)
; OTHER INFORMATION: G alpha q minigene peptide
US-09-852-910-114
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          Sequence 115, Application US/09852910
Publication No. US20030096297A1
GENERAL INFORMATION:
APPLICANT: Hamm, Heidi
APPLICANT: Gilchrist, Annette
TITLE OF INVENTION: Method For Identifying Inhibitors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Hamm, Heidi
APPLICANT: Hamm, Heidi
APPLICANT: Gilchrist, Annette
APPLICANT: Gilchrist, Annette
TITLE OF INVENTION: Method For Identifying Inhibitors of G Protein Coupled Receptor
FILE REFERENCE: 2661-101
CURRENT APPLICATION NUMBER: US/09/852,910
CURRENT FILING DATE: 2001-09-18
PRIOR APPLICATION NUMBER: US 60/275,472
PRIOR APPLICATION NUMBER: US 60/275,472
PRIOR FILING DATE: 2001-03-14
NUMBER OF SEQ ID NOS: 271
SOFTWARE: Patentin version 3.0
SEQ ID NO 114
TENCHT! 13
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FILING DATE: 14-JAN-1994
ATTORNEY/AGENT INFORMATION:
NAME: ALI KAMAREI
REGISTRATION NUMBER: 37000
REFERENCE/DOCKET NUMBER: 10262-1US
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650-322-7371
TELEPHONE: 650-322-7339
INFORMATION FOR SEQ ID NO: 93:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 114, Application US/09852910 Publication No. US20030096297A1 GENERAL INFORMATION:
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Best Local S
FILE REFERENCE: 2661-101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ENGTH: 13
                                                                                                                                                                                                                                                                                   19.2%;
Local Similarity 63.6%;
hes 7; Conservative
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STRANDEDNESS: single
TOPOLOGY: linear
SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION DATA:
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Similarity 85.7%;
6; Conservative
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CLASSIFICATION: <Unknown>
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Pred. No. 2.5e+02;
0; Mismatches 1.
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Search completed: November Job time: 171 secs

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2005, 14:26:03

Job time :

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NUMBER OF SEQ ID NOS: 271

SOFTWARE: PatentIn version 3.0

SEQ ID NO 115

LENGTH: 13

TYPE: PRT

ORGANISM: Artificial Sequence
FEATURE:
FEATURE:
NAME/KEY: misc feature
LOCATION: (1). (13)

OTHER INFORMATION: G alpha q** minigene peptide
US-09-852-910-115
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                                                                                                                                                       ; OTHER INFORMATION: No. US20030162223A1el Sequence US-10-283-423-124
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                                                                                                                                                                                                                                                   PRIOR APPLICATION NUMBER: PriorAppNumber: 09/693,746
PRIOR FILING DATE: PriorFilingbate : 2000-10-20
PRIOR PRILICATION NUMBER: PriorAppNumber: 09/425,676
PRIOR FILING DATE: PriorFilingbate : 1999-10-22
PRIOR FILING DATE: PriorFilingbate : 1999-10-22
NUMBER OF SEQ ID NOS: 187
SOFTWARE: PatentIn version 3.2
SEQ ID NO 124
LENGTH: 13
                                                                        Query Match
Best Local Similarity
Matches 5; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Lowery, David E.
APPLICANT: Smith, Valdin G.
APPLICANT: Kubiak, Teresa M.
APPLICANT: Kubiak, Teresa M.
APPLICANT: Larsen, Martha J.
TITLE OF INVENTION: Drosophila G Protein Coupled Receptors,
TITLE OF INVENTION: Related To The Same
FILE REFERENCE: PHRM0002-102
                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/10/283,423
CURRENT FILING DATE: 2002-10-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT FILING DATE: 2001-09-18
PRIOR APPLICATION NUMBER: US 60/275,472
PRIOR FILING DATE: 2001-03-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/852,910
CURRENT FILING DATE: 2001-09-18
                                                                                                                                                                                               ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                     Earlier Applications
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Application Project
1 SDIGISEPN 9
                                     7 SGLNLSEPN 15
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Pred. No. 3.4e+02;
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Perfect score:
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74
 GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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B 8	Query Ma Best Loc Matches	RESULT 2 PTO289 Ig heavy ch Cypecies: Cybate: 30- CyAccession RyYamada, M J. Exp. Mederence A; Accession A; Molecule A; Reference A; Accession A; Molecule A; Reference A; Accession A; Ryerimen C; Keywords:	Db Qy	Query Match Best Local Matches	RESULT 1 B47630 Ig kappa ch C;Species: C;Date: 03- C;Accession R;Gutman, G Immunogenet A;Title: Du A;Reference A;Accession A;Status: p A;Molecule A;Residues: A;Cross-ref C;Keywords:	C C C C C C C C C C C C C C C C C C C
3 LSMGSG 8 :      5 ISMGGG 10	ory Match  31.1%; Score 23; DB 2; Length 10;  t Local Similarity 66.7%; Pred. No. 4.8e+02;  cches 4; Conservative 1; Mismatches 1; Indels 0; Gaps 0;	ain CRD3 region (clone 4-109) - human (fragment)  Sep-1993 #sequence_revision 30-Sep-1993 #text_change 16-Aug-1996  : PT0289 :: PT0289 eferential utilization of specific immunoglobulin heavy chain diversity number: PT0222; MUID:91108337; PMID:1899102 : PT0289 type: DNA 1-10 <yam's b="" heterotetramer;="" immunoglobulin<="" lymphocyte="" source:="" tal="" td=""><td>3 LSMGSGLNL 11  :        1 LTFGSGTKL 9</td><td>ery Match 32.4%; Score 24; DB 2; Length 13; st Local Similarity 55.6%; Pred. No. 4.2e+02; ches 5; Conservative 1; Mismatches 3; Indels 0; Gaps 0;</td><td>pa chain J region J4 - souties: Rattus sordidus villos ies: Rattus sordidus villos ies: Rattus sordidus villos ies: Natus sordidus villos ies: Natus sordidus villos seston: E47630 an, G.A.; Besta, R.M.; Fran genetics 26, 14-20, 1987 e: Duplication of Jo-kappa g rence number: A47630; MUID: seion: E47630 seion: E47630 us: preliminary; not compar cule type: DNA dues: 1-13 <gut> s-references: GB:M17319; NI ords: heterotetramer; immun</gut></td><td>30 18 24.3 10 2 E60787 sperm-activating p 31 18 24.3 10 2 C60588 sperm-activating p 32 18 24.3 10 2 E60527 sperm-activating p 33 18 24.3 12 2 A20907 Ig kappa chain J1 34 18 24.3 12 2 E58502 J 2 Kappa 2 Chain J 35 18 24.3 12 2 E58502 J 2 Chain J 36 18 24.3 13 2 PH0783 6-phosphofructokin 37 18 24.3 13 2 S03879 framslation initial 38 18 24.3 14 2 B29743 translation initial 39 18 24.3 14 2 B26819 fraceptor al 40 18 24.3 15 2 PH0751 41 18 24.3 15 2 PH0751 42 18 24.3 15 2 PH0751 43 18 24.3 15 2 PH0751 44 18 24.3 15 2 C244417 receptor be 45 17 23.0 6 2 A44916</td></yam's>	3 LSMGSGLNL 11  :        1 LTFGSGTKL 9	ery Match 32.4%; Score 24; DB 2; Length 13; st Local Similarity 55.6%; Pred. No. 4.2e+02; ches 5; Conservative 1; Mismatches 3; Indels 0; Gaps 0;	pa chain J region J4 - souties: Rattus sordidus villos ies: Rattus sordidus villos ies: Rattus sordidus villos ies: Natus sordidus villos ies: Natus sordidus villos seston: E47630 an, G.A.; Besta, R.M.; Fran genetics 26, 14-20, 1987 e: Duplication of Jo-kappa g rence number: A47630; MUID: seion: E47630 seion: E47630 us: preliminary; not compar cule type: DNA dues: 1-13 <gut> s-references: GB:M17319; NI ords: heterotetramer; immun</gut>	30 18 24.3 10 2 E60787 sperm-activating p 31 18 24.3 10 2 C60588 sperm-activating p 32 18 24.3 10 2 E60527 sperm-activating p 33 18 24.3 12 2 A20907 Ig kappa chain J1 34 18 24.3 12 2 E58502 J 2 Kappa 2 Chain J 35 18 24.3 12 2 E58502 J 2 Chain J 36 18 24.3 13 2 PH0783 6-phosphofructokin 37 18 24.3 13 2 S03879 framslation initial 38 18 24.3 14 2 B29743 translation initial 39 18 24.3 14 2 B26819 fraceptor al 40 18 24.3 15 2 PH0751 41 18 24.3 15 2 PH0751 42 18 24.3 15 2 PH0751 43 18 24.3 15 2 PH0751 44 18 24.3 15 2 C244417 receptor be 45 17 23.0 6 2 A44916
		and				

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RESULT 3

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A;Molecule type: DNA
A;Residues: 1-12 <EMO>
A;Residues: 1-12 <EMO>
A;Cross-references: GB:X00231; NID:g1577; PIDN:CAA25049.1; PID:e8275;
R;Ayadi, H.; Marche, P.N.; Cazenave, P.A.
Immunogenetics 34, 201-207, 1991
A;Title: Evolution of the rabbit immunoglobulin kappa chain genes.
A;Reference number: A53275; MUID:91372868; PMID:1909995
                                                                                                                                          R;Emorine, L; Max, E.E.
Nucleic Acids Res. 11, 8877-8890, 1983
A;Title: Structural analysis of a rabbit immunoglobulin
A;Reference number: A20907; MUID:84169523; PMID:6324107
A;Accession: D20907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C;Species: Oryctologus cuniculus (domestic rabbit)
C;Date: 31-Mar-1993 #sequence_revision 18-Nov-1994 #tex.
C;Accession: A44873
R;Ikebe, M; Hornick, T.
Arch. Biochem. Biophys. 288, 538-542, 1991
A;Title: Determination of the phosphorylation sites of A;Reference number: A44873; MUID:91378498; PMID:1898046
A;Accession: A44873
                                                                                                                                                                                                                                                                                                                          RESULT 5
D20907
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A;Title: T cell receptor genes in a series of class I major histocompatibility complex-allelic exclusion and antigen-specific repertoire.
A;Reference number: PH0746; MUID:92078846; PMID:1836010
A;Accession: PH0801
                                                                                                                                                                                                                                            Ig kappa-1 chain J4 segment (b95 allotype) - rabbit C;Species: Oryctolagus cuniculus (domestic rabbit) C;Date: 10-Aug-1990 #sequence revision 10-Aug-1990 C;Accession: D20907; D53275
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A;Experimental source: skeletal myosin
A;Note: sequence extracted from NCBI backbone (NCBIP:63199)
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C;Species: Mus musculus (house mouse)
C;Date: 17-Jul-1992 #sequence_revision 17-Jul-1992 #text_change 30-May-1997
C;Accession: PH0801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Status: preliminary
A;Molecule type: protein
A;Residues: 1-9 <IKE>
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A; Residues: 1-14 < CAS>
                                                                                                                                   A; Status: preliminary
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7e+02;
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       ISSGYNPEKP
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Ig kappa chain J region (D23) - mouse C;Species: Mus musculus (house mouse) C;Date: 09-Mar-1990 #sequence_revision C;Accession: H33932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Accession: D53275
A;Status: preliminary
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-12 <AYA>
A;Note: sequence extacted from NCBI backbone (NCBIN:56069, NCBIP:56166)
C;Comment: This J4 segment may not be functional because of a short space between the C;Keywords: heterotetramer; immunoglobulin
                                                                                                                                            A;Description: catalyzes the six-electron reduction of su A;Pathway: the terminal oxidase in the sulfate-reduction C;Keywords: heterohexamer; oxidoreductase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C;Species: Desulfovibrio vulgaris
C;Date: 19-Mar-1997 #sequence_revision 11-Jun-1999 #text_change 11-Jun-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Molecule type: mRNA
A;Residues: 1-13 <BAC>
A;Cross-references: UNIPROT:Q8K1F2; UNIPROT:Q8R028
C;Keywords: heterotetramer; immunoglobulin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R;Baccala, R.; Vo Quang, T.; Gilbert, M.; Ternynck, T.; Proc. Natl. Acad. Sci. U.S.A. 86, 4624-4628, 1989
A;Title: Two murine natural polyreactive autoantibodies A;Reference number: A33932; MUID:89282823; PMID:2499887
A;Accession: H33932
                                                                                                                                                                                                                                                                                                                                                                                                           R;Pierik, A.J.; Duyvis, M.G.; van Helvoort, J.M.L.M.; Wolbert, R.B.G.; Hagen, Eur. J. Biochem. 205, 111-115, 1992
A;Title: The third subunit of desulfoviridin-type dissimilatory sulfite reduct A;Title: The third subunit of desulfoviridin-type dissimilatory sulfite reduct A;Reference number: S21197; MUID:92209491; PMID:1555572
                                                                                                                                                                                                                                                                                                                 A; Experimental source: strain Hildenborough
                                                                                                                                                                                                                                                                                                                                        A; Molecule type: protein A; Residues: 1-15 < PIE>
                                                                                                                                                                                                                                                                                                                                                                                       A;Accession: S21238
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N; Alternate names: bisulfite reductase; desulfofuscidin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       hydrogensulfite reductase (EC 1.8.99.3)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Status: preliminary; not compared with conceptual translation
                                                                                                                                                                                                                                           Complex: heterohexamer; two alpha, two beta and two gamma chains
                                                                        Local Similarity
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MGSGLNLSEP 14
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                                                  Conservative
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                                                                      28.4%;
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Pred. No. 1.4e+03;
1; Mismatches 1
                                                                      Score 21; DB 2;
Pred. No. 1.8e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 21; [
Pred. No. 1.
                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    beta chain - Desulfovibrio vulgaris (fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 2;
1.5e+03
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••
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C;Species: Homo sapiens (man.)
C;Date: 25-Jan-1991 #sequence_revision 25-Jan-1991 #text_cnanye occasion: A36315
C;Accession: A36315; MUID:90258846; PMID:2188094
                                                                                                                                                                           C;Species: Mus musculus (house mouse)
C;Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 15-Mar-2004
C;Accession: PH1455
R;Casanova, J.L.; Martinon, F.; Gournier, H.; Barra, C.; Pannetier, C.; Regr.
J. Exp. Med. 177, 811-820, 1993
A;Title: T cell receptor selection by and recognition of two class I major JA;Reference number: PH1430; MUID:93171821; PMID:8436911
A;Accession: PH1455
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PH1455
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C;Species: Gallus gallus (chicken)
C;Date: 28-Mar-1991 #sequence_revision 28-Mar-1991 #text_change 21-Jul-2000
C;Accession: C36198
R;Tjoelker, L.W.; Carlson, L.M.; Lee, K.; Lahti, J.; McCormack, W.T.; Leiden, J.M.; Che Proc. Natl. Acad. Sci. U.S.A. 87, 7856-7860, 1990
A;Title: Evolutionary conservation of antigen recognition: the chicken T-cell receptor A;Reference number: A36198; MUID:91045896; PMID:2236002
A;Accession: C36198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 9
A36315
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A; Residues: 1-15 < CAS>
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A;Molecule type: protein
A;Residues: 1-15 <ISA>
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C;Species: Homo sapiens (man)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C; Keywords: T-cell receptor
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A; Residues: 1-15 < TJO>
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                                                    Query Match
Best Local
                                                                                                           Experimental source: cytolytic T-lymphocyte Keywords: receptor; T-cell
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Best Local Similarity
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Best Local (
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                                                                                                                                                                                                                                                                                                                                   receptor alpha chain (clone A24/PEF4) - mouse (fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
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 3 LSMGSGL 9
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                                   Similarity
5; Conserv
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4; Conserv
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                                   Score 21; DB 2;
Pred. No. 1.8e+03;
0; Mismatches 2
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Pred. No. 1.8e+03;
0; Mismatches 1
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Pred. No. 1.8e+03;
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Ig lambda chain J region - sheep (fragment) (Species: Ovis orientalis aries, Ovis ammon & C;Date: 26-Jul-1991 #sequence_revision 26-Jul-C;Accession: A37933 R;Reynaud, C.A.; Mackay, C.R.; Mueller, R.G.; Cell 64, 995-1005, 1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R;Yoshino, K.I.; Kajiura, H.; Nomura, K.; Takao, T.; Shimonishi, Y.; Kurita, M.; Yamaç Comp. Biochem. Physiol. B 94, 739-751, 1989
A;Title: A halogenated maino acid-containing sperm activating peptide and its related otus nudus, Echinometra mathaei and Heterocentrotus mammillatus.
A;Reference number: A60527
A;Accession: H60588
                                                      A;Cross-references: GB:M60440; NID:g165946; C;Keywords: heterotetramer; immunoglobulin
                                                                                                                                                    A;Title: Somatic generation of diversity in a mammalian A;Reference number: A37933; MUID:91160063; PMID:1900459 A;Accession: A37933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sperm-activating peptide (Thr-2,5, Leu-3, Pro-4, Ser-7,10 SAP-I) - slate-pencil urchin C;Species: Heterocentrotus mamillatus C;Datc: 17-Apr-1993 #text_change 16-Aug-2004 C;Datc: 17-Apr-1993 #text_change 16-Aug-2004
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H60588
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Comp. Biochem. Physiol. B 94, 739-751, 1989
A;Title: A halogenated amino acid-containing sperm activating peptide and its
otus nudus, Echinometra mathaei and Heterocentrotus mammillatus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sperm-activating peptide (Asn-3, Ser-5 SAP-I) - Echinometra mathaei (type A) C;Species: Echinometra mathaei (type A) C;Date: 17-Apr-1993 #sequence_revision 17-Apr-1993 #text_change 16-Aug-2004 C;Accession: F60589
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F60589
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A; Accession: F60589
                                                                                             A; Molecule type: DNA
A; Residues: 1-12 < REY>
                                                                                                                                                                                                                                                                                                                                                   RESULT 13
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Pred.
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26-Jul-1991
NO;
  DB 2;
2.1e+03;
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1.7e+03;
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Best Local Similarity

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RESULT 15
D47630
Id 47630
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Id 5, Species: Rattus sordidus villosissimus (southeastern Australian rat)
C;Species: Rattus sordidus villosissimus (southeastern Australian rat)
C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 05-Nov-1999
C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 05-Nov-1999
C;Accession: D47630
R;Gutman, G.A.; Besta, R.M.; Frank, M.B.; Baverstock, P.R.
Immunogenetics 26, 14-20, 1987
A;Title: Duplication of J-kappa genes within genus Rattus.
A;Reference number: A47630; MUID:87278355; PMID:311193
A;Accession: D47630
A;Status: preliminary; not compared with conceptual translation
A;Residues: 1-13 -GUTP
A;Cross-references: GB:M17319; NID:g204788; PIDN:AAA41400.1; PID:g204792
C;Keywords: heterotetramer; immunoglobulin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R;Akimenko, M.A.; Mariame, B.; Rougeon, F.
Proc. Natl. Acad. Sci. U.S.A. 83, 5180-5183, 1986
A;Title: Evolution of the immunoglobulin kappa light chain locus in the rabbit: evidence A;Reference number: A94110; MUID:86259753; PMID:3088570
A;Accession: B25448
A;Accession: B25448
A;Rolecule type: DNA
A;Residues: 1-13 <AKI>
A;Cross-references: GB:M14067; GB:M14062; GB:M14063; GB:M14064; GB:M14065; GB:M14066; NI
C;Keywords: heterotetramer; immunoglobulin
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C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 16-Aug-1988 #sequence_revision 16-Aug-1988 #text_change 05-Nov-1999
C;Accession: B25448
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rattus sp.
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SEQUENCE MEDLINE= Chen C.F "Fibrosi carrier Gastroer	O1-JU O1-JU O1-JU Pre-S Hepat Virus	JLT 2 326 Q80B2		Query Match Best Local Matches	Man and a	1,19,2	SEQUENCE MEDLINE= Cowden C "Eight n	01-NOV-1 01-NOV-1 05-JUL-2 FMRFamid Ascaris Eukaryot Ascaridi NCBI Tax	1 RB CSU				33
NCE FRO	01-JUN-2003 01-JUN-2003 01-JUN-2003 01-JUN-2003 Pre-S1 prote Hepatitis B Viruses; Ret NCBI TaxID=1		7 SGI   : 1 SDJ	simi 5;		ides 16:491 SUBCELLULAR SIMILARITY:	NCE. NE=9538 n C., S	01-NOV-1995 (R 01-NOV-1995 (R 01-NOV-1995 (R 05-JUL-2004 (R FMRFamide-like Ascaris suum (L Eukaryota; Meti Ascarididae; A Ascarididae; A Ascarididae; A			19 19 19 19 19 18.5	19 19 19	19
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.H., Lai M.Y., Ch hepatitis B surf	ence update) tation update) dae; Orthohepadnavi	11 AA.		DB 1; Length 3.2e+02; thes 2; Inde	Neuropeptide. anine amide. D6886B05 CRC64;	(FMRFamide related	.1016/0196-9 s isolated f	update) on update) is lumbricoides). adorea; Ascaridida;	13 AA.				
hen D.S.; face antigen	avirus.			13; els 0; Gaps		d peptide)	781(94)00211-N;	; Ascaridoidea;			P82326 p19um sacu Q61864 mus muscu Q61864 homo sapi Q86wb2 homo sapi Q9wta3 amorphoph Q8usk4 human imm sp. Q9qv76 mus sp. P82079 limnodyna	macaca rana lu methano sa	murine
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SEQUENCE
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                                                                                                                                         SEQUENCE FROM N.A.
Alberti-Segui C., Dietrich F., Philippsen P.;
Submitted (MAY-2001) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                        Ashbya gossypii (Yeast) (Eremothecium gossypii).
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Eremothecium.
NCBI_TaxID=33169;
                                                                                                                                                                                                                                                                                    YLR191 (Fragment).
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01-MAR-2003 (TrEMBLrel.
01-JUN-2003 (TrEMBLrel.
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-!- MASS SPECTROMETRY: MW=1197; METHOD=FAB; RANGE=1-13; NOT
Direct protein sequencing.
SEQUENCE 13 AA; 1197 MW; 56B5BB1FAEA7C723 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bradford A.M., Raftery M.J., Bowie J.H., Wallace J.C., Tyler M.J.; "Peptides from Australian frogs. The structure of the dynastins from Limnodynastes salmini and fletcherin from Limnodynastes fletcheri."; Aust. J. Chem. 46:1235-1244(1993).

-i. SUBCELLULAR LOCATION: Secreted.
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Bukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Amphibia; Batrachia; Anura; Neobatrachia; Hyloidea;
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29-MAR-2004 (Rel. 43,
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Pred. No.
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Myobatrachidae;
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01-OCT-1996
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STRAIN=168 / IS58;
MEDLINE=97237728; I
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NON_TER 1 1
NON_TER 8 A
                                                                                                                                                           Direct protein sequencing.
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STRAIN=DSM 20451;
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01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence up
05-JUL-2004 (Rel. 44, Last annotation
Vegetative protein 6 (VEG6) (Fragment)
Bacillus subtilis.
Bacteria; Firmicutes; Bacillales; Baci
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01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
Unknown protein from 2D-page (Fragment).
Lactobacillus sanfranciscensis (Lactobacillus sanfrancisco).
Bacteria, Firmicutes, Lactobacillales, Lactobacillus.
                                                                                                                                            Voelker A., Hecker M.;
"Identification of vegetative proteins index of Bacillus subtilis.";
Microbiology 143:991-998(1997).
-!- CAUTION: Could not be found in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "High pressure effects step-wise altered protein expression in Lactobacillus sanfranciscensis.";
Proteomics 2:765-774(2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PubMed=12112860;

DOI=10.1002/1615-9861 (200206) 2:6<765::AID-PROT765>3.0.CO; 2-V;

Drews O., Weiss W., Reil G., Parlar H., Wait R., Goerg A.;

Drews O., Weiss W., Reil G., Parlar H., Wait R., Goerg A.;
                                                                                                                                                                                                                                                                                                                                                                                        Bacillales; Bacillaceae; Bacillus
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                    Score 22; DB 1;
Pred. No. 4.6e+03;
Mismatches
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05-JUL-2004 (TrEMI
05-JUL-2004 (TrEMI
05-JUL-2004 (TrEMI
05-JUL-2004)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
STRAIN=MG1363;
PubMed=14762010; DOI=10.1128/JB.186.4.1147-1157.2004;
PubMed=14762010; DOI=10.1128/JB.186.4.1147-1157.2004;
Largen R., Bulst G., Kuipers O.P., Kok J.;
"ArgR and AhrC are both required for regulation of argin Lactococcus lactis.";
J. Bactoriol. 186:1147-1157(2004).
EMBL; AY518515; AAR99646.1; -.
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01-NOV-1998
01-NOV-1998
01-DEC-2001
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01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
MHC class II B locus 4 (Fragment).
Oreochromis inloticus (Nile tilapia) (Tilapia nilotica).
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MEDLINE=98315113; PubMed=9649539;
Malaga-Trillo E., Zaleska-Rutczynska Z.,
Figueroa F., Sultmann H., Klein J.;
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Bacteria; Firmicutes; Lactobacillales;
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s; Streptococcaceae; Lactococcus.
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Best Local :
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Q1-MAR-2004 (TrEMBLrel. 201-MAR-2004 (TrEMBLrel. 201-MAR-2004 (TrEMBLrel. 201-MAR-2004)
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SEQUENCE
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Hox C10 (Fragment).
Gallus gallus (Chicken).
Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eukaryota; Metazoa; Chordathae; Galliformes; Phasianidae; Phasianinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
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Predicted protein.
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"Determination of the phosphorylation sites by protein kinase C.";
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STRAIN=White leghorn;
STRAIN=White leghorn;
MEDLINE=98141811;
PubMed=9473273; DOI=10.1006/abio.1997.2500;
MEDLINE=98141811;
PubMed=9473273; DOI=10.1006/abio.1997.2500;
MEDLINE=98141811;
PubMed=9473273; DOI=10.1006/abio.1997.2500;
MILITIAL STREET SEQUENCES SHARING A SINGLE MODERATE OF THE PROPERTY O
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A44873; A44873.
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                                                                                                                                                                    Query Match
Best Local S
Matches 4
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Q9QVM9;
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O1-MAY-2000 (TrEMBLrel. 13, Created)
O1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
O1-JUN-2002 (TrEMBLrel. 21, Last annotation update)
O1-JUN-2002 (TrEMBLrel. 21, Last annotation update)
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SEQUENCE
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Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Sordariomycetidae; Sordariales; Sordariaceae; Neurospora.
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Mammalia; Eutheria;
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EMBL; AABXO1000180; E
SEQUENCE 14 AA; 13
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Rovelli G., Stone
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-I- CAUTION: The sequence shown here is derived EMBL/GenBank/DDBJ whole genome shotgun (WGS)
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S.R., Guidolin
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Sciurognathi; Muridae; Murinae; Rat
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Sperm-activating;
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SEQUENCE
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Bukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Amphibia; Batrachia; Anura; Neobatrachia; Hyloidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mesembryanthemum crystallinum (Common ice plant).

Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

Spermatophyta; Magnollophyta; eudicotyledons; core eudicots;

Caryophyllales; Aizoaceae; Mesembryanthemum.
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01-AUG-1998 (TrEMBLrel. 07, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation updat
Turgor responsive protein homolog (Fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      065177;
                                                                                                                                                                                                                                 Direct protein sequencing. SEQUENCE 10 AA; 986 MW;
                                                                                                                                                                                                                                                                                               TISSUE=Tibial gland;
Raftery M.J., Bradford A.M., Bowie J.H., W
"Peptides from Australian frogs. The struc
the banjo frogs Limmodynastes interioras,
Limnodynastes terraereginae.";
Aust. J. Chem. 46:833-842(1993).
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Michalowski C.B., Bohnert H.J.;
Michalowski C.B., Bohnert H.J.;
Submitted (MAR-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AF054444; AAC14178.1; -.
                                                                                                                                                                                                                                                          -!- SUBCELLULAR LOCATION: Secreted.
-!- TISSUE SPECIFICITY: Skin.
-!- MASS SPECTROMETRY: MM=986; METHOD=FAB; RANGE=1-10; NOTE=Ref.1.
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OS Heterocentrotus mammillatus (Slate-pencil urchin).

OC Eukaryota; Metazoa; Echinodermata; Eleutherozoa; Echinozoa;

OC Heterocentrotus.

OX NCBI_TaxID=31180;

RN SEQUENCE.

RA Yoshino K.I., Kajiura H., Nomura K., Takao T., Shimonishi Y.,

RA Kurita M., Yamaguchi M., Suzuki N.;

"A halogenated amino acid-containing sperm activating peptide and its

related peptides isolated from the egg jelly of sea urchins,

Tripneustes gratilla, Pseudoboletia maculata, Strongylocentrotus

RT Tripneustes gratilla, Pseudoboletia maculata, Strongylocentrotus

RT Trudus, Echinometra mathaei and Heterocentrotus mammillatus.";

DR SEQUENCE 10 AA; 875 MW; 59F15365B861B767 CRC64;

Query Match

Best Local Similarity 50.0%; Score 20; DB 2; Length 10;

Best Local Similarity 50.0%; Pred. No. 1.1e+04;

Matches 4; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

DB 3 LSMGSGLN 10

Qy 3 LSMGSGLN 10

pb 3 LPTGSGVS 10

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#### SUMMARIES

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# ALIGNMENTS

#### RESULT 1 ADG46078 ID ADG4 XX ANTI XX A antibody; carbohydrate-deficient transferrin; CDT; non-glycosylated transferrin; alcoholism; alcoholic; diagnosis; human. Human CDT peptide fragment #4. ADG46078 standard; Althaus H; 05-JUL-2002; 2002DE-01030550. 19-MAY-2003; 2003EP-00011334. 07-JAN-2004. EP1378521-A1. Homo sapiens. 25-MAR-2004 (first entry) ADG46078; (DADE-) DADE BEHRING MARBURG GMBH. peptide; 13 Š

New antibody specific for carbohydrate-deficient transferrin, useful for diagnosis of alcoholism, can bind its target in solution, eliminating need for immobilization.

WPI; 2004-073743/08.

Claim 4; SEQ ID NO 4; 21pp; German.

This invention describes a novel antibody that, in aqueous solution, binds selectively to carbohydrate-deficient transferrin (CDT) without having to bind CDT to a solid phase. The invention also describes an antibody that binds selectively to CDT at regions containing the sequences VVARSMGGKEDLIWELL, TTEDSIAKIMNGEADAMSLDGGF, SKLSMGSGLNLSEPN and YEKYLGEEYVKAV (ADG46075-ADG46078) and an immunoassay for detecting CDT using the antibodies of the invention. The antibodies of the invention are monoclonal, specifically from hybridomas DSM ACC2540 or 2541. The antibodies are obtained by immunisation with non-glycosylated transferrin, or a fragment, then generation of hybridomas by standard fusion of spleen and myeloma cells. Hybridomas are then selected for production of antibodies that specifically bind CDT from the aqueous phase. The antibodies are useful for diagnosis of alcoholism, CDT, which

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ARESULT 2
ABP7
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                    The present sequence is a portion of the human transferrin (Tf) C domain comprising amino acids 611-659 of the Tf sequence given in ABP72820. The invention relates to novel fusion proteins of Tf and a therapeutic protein or peptide. The therapeutic protein or peptide, e.g. an erythropoletin mimetic (see ABP72834), can be fused to the N- or C-terminus of Tf, or inserted into Tf especially between residues Glu-625 and Thr-626 of the Tf N domain. Modified Tf fusion proteins of the
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                                                                                                                                                                                                                                                Example
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30-NOV-2001;
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tranquillizer; vulnerary; antidiabetic; nephrotropic; antipyretic;
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Pred. No.
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prognosis,
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transferrin protein exhibiting reduced glycosylation fused to at least one antibody variable region. The invention may be useful for the development of compounds with cytostatic, antibacterial, virucide, antiparasitic, immunosuppressive or antiarthritic activity. In addition, the sequences disclosed may be useful for gene therapy. The fusion protein is useful for preparing a composition for treating a disease or disease symptom in a patient for example septic shock, endotoxic shock, cachexia syndromes associated with bacterial, viral or parasitic infections, neoplasm, autoimmune disease, arthritis or adverse effects associated with treatment for preventing graft rejection. The present sequence is that of a domain of the human transferrin protein which was used in the exemplification of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          treatment of diseases and/or disorders of the endocrine, nervous respiratory, cardiovascular, reproductive and digestive systems, and/or disorders relating to the blood or to cell proliferation, inflammatory conditions and infectious diseases, or to deliver a therapeutic agent to a cell or across the blood-brain barrier
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New fusion protein comprising a transferrin protein exhibiting reduced glycosylation fused to at least one antibody variable region, useful fipreparing a composition for treating e.g., septic shock, neoplasm or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       antiparasitic; immunosuppressive; antiarthritic; gene therapy; septic shock; endotoxic shock; cachexia syndrome; bacterial infectiviral infection; parasitic infection; neoplasm; autoimmune disease; arthritis; graft rejection; human.
                                                                                                                                                                                                                                                                                                                                                                                                                             Example
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30-AUG-2002;
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30-NOV-2001;
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antibody variable region; cytostatic; antibacterial; virucide;
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Pred. No.
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                                                                                                                                                                                              beta-interferon - IFN, mimetic peptide - EMP1, protein of the invention
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30-NUV-2001; 2001US-0334059P.
30-AUG-2002; 2002US-00231494.
30-AUG-2002; 2002US-0406977P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           fusion protein; transferrin; Tf; beta-interferon; beta-IFN; glucagons-like peptide; GLP-1; erythropoietin mimetic peptide; EMP1; T-20; soluble toxin receptor; epitope tagging; human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                    ADL70756 standard; peptide; 49
                                                                                                                                                                               The invention comprises a fusion protein that contains a modified transferrin (Tf) protein fused to a therapeutic protein/peptide (e.g. beta-interferon - IFN, glucagone-like peptide - GLP-1, erythropoietin mimetic peptide - EMP1, T-20 and soluble toxin receptor). The fusion protein of the invention is useful for epitope tagging. The present amino acid sequence represents a fragment of the human Tf protein.
                                                                                                                                                                                                                                                                                  New fusion protein comprising a modified transferrin (Tf) protein fused to a therapeutic protein or peptide, useful for epitope tagging.
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CC disorders or diseases of endocrine system, nervous system, immune system, cardiovascular system, diseases and/or disorders conditions to cell proliferation, and/or diseases and/or disorders conditions to cell proliferation, and/or diseases or disorders relating to blood. The modified fusion proteins are useful in disgnosis, prognosis, conditions of haematopoietic cells (e.g., leukopenia) diseases and conditions of haematopoietic cells (e.g., leukopenia, neutropenia, anaemia conditions in flammatory conditions such as allergic asthma, rhinitis and consens, inflammatory conditions e.g., inflammation associated with confection (e.g., septic shock, sepsis), isohaemia-reperfusion injury, conditions e.g., inflammation associated with conditions e.g., inflammation associated with consens, cells, gastrointestinal disorders (inflammatory disorders (asthma and allergy), gastrointestinal disorders (inflammatory bowel conditions), gastrointestinal disorders (inflammatory conditions), gastrointestinal disorders (inflammatory conditions), etc. The conditions of gammapathy of gammapathy of gammapathy conditions, gastrointestinal conditions, gastrointestinal conditions, gastrointestinal conditions, gastrointestinal gammapathy conditions, gastrointestinal gamm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  proteins of transferrin (Tf) and therapeutic proteins with increased serum half-life or serum stability. Preferred fusion proteins include those modified so that the Tf moiety exhibits no or reduced glycosylation, iron binding and/or Tf receptor binding. The transferrifusion proteins are useful for treating, preventing or ameliorating disorders or diseases of calcaring.
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10-MAR-2003; 2003US-003B4060
09-JUL-2003; 2003US-0485404P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Dermatological; Antiinflammatory; Antibacterial; Vasotropic; Vulnerary; Nephrotropic; Neuroprotective; Cycostatic; Ceebroprotective; Vulnerary; Antiparkinsonian; Nootropic; Cardiant; Antianaemic; Antiatherosclerotic; Thrombolytic; Anticoagulant; Gastrointestinal; Respiratory; transferrin; Tf; transferrin fusion protein; Tf fusion protein; human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The present proteins of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel library containing several fusion proteins each of which comprises first transferrin polypeptide fused to at least one second peptide, useful for screening for transferrin fusion protein having the particular
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO 27; 243pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Turner AJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                invention relates to a library (I transferrin (Tf) and therapeutic
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RESULT 6

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Best Local
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08-MAR-2002;
08-MAR-2002;
15-MAR-2002;
19-MAR-2002;
                                               New isolated NOVX polypeptides and polynucleotides, useful for preventing, diagnosing or treating NOVX-associated disorders, costeoarthritis, obesity, atherosclerosis, cancer, Parkinson's casthma, or infections.
                                                                                                                                                                                                                                           Alsobrook JP, Anderson DW, Boldog FL, Burgess CE, Chaudhuri A; Colman SD, Edinger SR, Ettenberg S, Gangolali EA, Gerlach VL; Gorman L, Guo X, Kekuda R, Li L, Maclachlan T, Malyankar UM; Mezes PS, Miller CE, Millet I, Padigaru M, Patturajan M, Peyman J; Qian X, Rastelli L, Rieger DK, Smithson G, Spytek KA, Stone DJ; Sukumaran S, Vernet CAM, Voss EZ, Zhong M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            human; NOVX; metabolic disorder; diabetes; anorexia; cancer; cardiovascular; infectious; neurodegenerative; immune; haematopoietic disease; dyslipidaemia; anorectic; virucide; nootropi antiinflammatory; neuroprotective; antilipaemic; anabolic; cardiant; neurogenesis; wound healing; angiogenesis; chromosome mapping;
     Claim 1;
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                                                                                                                                                                            2003-697890/66.
)B; ADF74797.
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2002US-0365884P
2002US-0365884P
2002US-0365984P
2002US-0365985P
2002US-0372018P
2002US-0372012P
2002US-0374682P
2002US-0374682P
2002US-0374682P
2002US-0391719P
2002US-0391719P
2002US-0391719P
2002US-0410755P
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Conservative (
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2002US-0420382P.
2003US-00420382.
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2002US-00093463.
2002WO-US007288.
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282pp;
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Pred. No. 0.0015;
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                                                                         e.g.
disease,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This invention relates to a novel nucleic acids, and encoded polypeptides concerned, which have properties related to the stimulation of biochemical corphysiological responses in a cell, tissue, organ or organism. CC Specifically, it refers to the use of biologically active fragments for cdiagnostic and prognostic assays and furthermore in the treatment of cdiverse pathological conditions. The present invention describes novel human and murine NOVX proteins, as well as methods to modulate their cexpression using antisense oligos, ribozymes and peptide nucleic acids. The polypeptides, nucleic acid molecules and antibodies are useful in the cmanufacture of a medicament for treating metabolic disorders, diabetes, anorexia, cancer, cardiovascular, infectious, neurodegenerative, immune cc and haematopoietic diseases as well as various dyslipidaemias.

CC Accordingly, these molecules have many activities including anorectic, virucide, nootropic, antiinflammatory, neuroprotective, antilipaemic, canabolic and cardiant. Furthermore, they are useful in screening assays consensis, wound healing and anglogenesis. The nucleic acids are also used as in chromosome mapping, tissue typing, preventive medicine and convention.
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                      hyperproliferative disorder; neoplasm; cardiovascular disorder; cardiac arrest; cerebrovascular disorder; cerebral ischemia; angiogenesis; nervous system disorder, Alzheimer's disease; infection; cular disorder; corneal infection; wound healing; epithelial cell proliferation; aging; organ transplant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 137 AA;
                                                                              Isolated nucleic acid molecule encoding a human tranferrin protein
                                                                                                                                                              Ruben SM, Shi Y,
                                                                                                                                                                                                                                                             21-DEC-2000; 2000WO-US034769.
                                                                                                                                                                                                                                                                                                                            WO200146254-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; transferrin; autoimmune disease; rheumatoid arthritis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Amino acid sequence of a human transferrin.
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                                                                                                                                                                                              (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                             28-JUN-2001
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                                                                                                              2001-381910/40.
)B; AAH25190.
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13; Conserv
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                                                              preventing, treating
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Pred. No. 0.0043;
                                                              ameliorating
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Claim 11; Page 286-287; 290pp; English

human transferrin polypeptide

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RESULT 8
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Angiotensin converting enzyme splice variant; ACEV; interleukin 6; granulocyte colony stimulating factor receptor; glucagon; hypertrophy; platelet-derived endothelial cell growth factor; cardiovascular disease; cellular tumour antigen P53; cyclin-dependent kinase inhibitor 1C; vasoactive intestinal polypeptide receptor 2; arteriosclerosis; cancer; myocardial infarction; coronary arterial thrombosis; renal disease; diabetic nephropathy; muscular disease; immune disorder; sarcoidosis; multiple sclerosis; immune complex nephritis; deep vein thrombosis; nonarcoidotic pulmonary grannlomatous disease; endothelial abnormality;
                                                                                                                                              WPI; 2001-336004/35.
N-PSDB; AAS06080.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  hyperproliferative disorders e.g. neoplasms of the breast or liver, cardiovascular disorders e.g. cardiac arrest, cerebrovascular disorders e.g. cardiovascular disorders e.g. Alzhelmer's disease, infections caused by bacteria, viruses and fungi an ocular disorders e.g. corneal infection. The polypeptides can also be used to aid wound healing and epithelial cell proliferation, to prevent skin aging due to sunburn, to maintain organs before transplantation, fo supporting cell culture of primary tissues, to regenerate tissues and in chemotaxis. The polypeptides can also be used as a food additive or preservative to increase or decrease storage capabilities
                                             Claim 4; Fig 80; 519pp;
                                                                          Novel alternative splicing variants e.g. variant of angiotensin converting enzyme (ACEV), useful in identifying candidate compounds capable of binding to the variant and to detect anti-variant antibo
                                                                                                                                                                                                                                                               17-NOV-1999;
10-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                 WO200136632-A2
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                                                                                                                                                                                                                                                                                                                17-NOV-2000; 2000WO-IL000766
                                                                                                                                                                                                                                                                                                                                                 25-MAY-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                   vascular disorder; asbestosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Angiotensin converting enzyme (ACEV) splice variant protein
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                                                                                                                                                                                                                                (COMP-) COMPUGEN LTD
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                                                                                                                                                                                             David A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                              99IL-00132978
99IL-00133455
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                                                                                                                                                                                               Azar
                                               English
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Pred.
                                                                                                                                                                                               Khosravi R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         No ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 4;
                                                                                                                                                                                               Bernstein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 328
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                                                                                antibodies.
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The sequence represents an angiotensin converting enzyme splice variant (ACEV) polypeptide. The polypeptides of the invention include variants

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Claim 1; Page 146-148; 153pp; English

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RESULT 9
ABR82321
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       granulocyte colony stimulating factor receptor, glucagon, interleukin 6, platelet-derived endothelial cell growth factor, cyclin-dependent kinase inhibitor 1C, cellular tumour antigen P53, and vasoactive intestinal collypeptide receptor 2. The polypeptides and their associated nucleic acids are useful for identification of variant sequences and detection of candidate compounds capable of binding the molecules. The sequences of the invention can be used in the treatment and diagnosis of various disorders including cardiovascular diseases such as arteriosclerosis, myocardial infarction and coronary arterial thrombosis, renal diseases such as diabetic nephropathy, muscular diseases such as hypertrophy, immune disorders such as immune complex nephritis, multiple sclerosis, cancer, sarcoidosis, nonarcoidotic pulmonary granulomatous diseases such as asbestosis and vascular pathologies involving an endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local S
Matches 13
                                                                                                                                                                      Kable AE,
Emerling
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEPR; metalloprotein; anti-HIV; antiallergic; antiinflammatory; human; antianemic; antiparkinsonian; nootropic; anticonvulsant; cytostatic; antiarteriosclerotic; antiasthmatic; immunosuppressive; antithyroid; hepatotropic; dermatological; antidiabetic; nephrotropic; antigout; thyromimetic; neuroprotective; osteopathic; antiarthritic; uropathic; antiparasitic; antihelmintic; antipsoriatic; ophthalmological; virucide; antifermatic; haemostatic; antibacterial; protozoacide; fungicide;
                                           New human metalloproteins and polynucleotides, useful for diagnosing, treating or preventing autoimmune or inflammatory disorders (e.g. AIDS, allergy or anemia), multiple sclerosis, osteoarthritis, cancer or
                                                                                                          WPI; 2003-598523/56.
N-PSDB; ACF35812.
                                                                                                                                                                                                                                                  14-JAN-2002; 2002US-0348769P
14-JAN-2002; 2002US-0350701P
19-MAR-2002; 2002US-0366059P
10-MAY-2002; 2002US-0379907P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABR82321;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human metalloprotein (MEPR)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          06-NOV-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABR82321 standard; protein; 575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 539
                                                                                                                                                                                                                                                                                                                                  14-JAN-2003; 2003WO-US001485
                                                                                                                                                                                                                                                                                                                                                                                                 WO2003060089-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                Homo
                                                                                                                                                                                                                      (INCY-) INCYTE GENOMICS
                                                                                                                                                                                                                                                                                                                                                                                                                               sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                             therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     507 YEKYLGEEYVKAV 519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13;
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                                                                                                                                                                      BM,
                                                                                                                                                                    Griffin JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             transgenic.
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                                                                                                                                                                      Gorvad
Jin P,
                                                                                                                                                                                                                       INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        polypeptide (Id-7509328CD1).
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Pred. No.
                                                                                                                                                                      AE, Becha SD, I
Chawla NK, Yue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 4;
0.017;
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                                                                                                                                                                      Richardson
e H, Khare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 539;
                                                                                                                                                                      TW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                       Marquis JP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
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ABM83782
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Best Local S
Matches 13
                                                                                                                                                                                                           Peraltu
Lagace RE, Spin
Xu Y, Kwong M, Po
                                                                                                                                                                                                                                                                                                              Stevens KA,
Peralta CH,
New diagnostic and therapeutic polynucleotides and polypeptides, useful in diagnosing a condition, disease or disorder associated with human molecules, e.g. autoimmune or inflammatory disorders, in gene therapy oin gene mapping.
                                                                                                                                                  N-PSDB;
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Mooney EM, Del
                                                                                                                                                                                                                                                                                                                                                                                                                                      Schmidt JP,
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12-SEP-2002;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gene therapy; human diagnostic and therapeutic polynucleotide; dithp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human diagnostic and therapeutic pprotein SEQ ID NO:4031.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         polypeptides of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (INCY-) INCYTE CORP
                                                                                                                                                                             2004-329368/30.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    l Similarity
13; Conser
                                                                                                                                                  ACN42434.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        YEKYLGEEYVKAV
                                                                                                                                                                                                                             , Wright RJ, Bruns CM, Marjanovic MM, Shen F; e TA, Suchorolski MT, Altus CM, Pitts SJ, Elder LV; Delegeane AM, Panesar IS, Banville SC, Reddy TP; Blanchard JL, Panzer SR, Wang X, Au AP, Gerstin EH; Anderson SB, Rioux P, Shen EJ, Wu MC, Stuve LL; Spiro PA, Stewart EA, Wingrove J, Vitt UA, Kirton ES ng M, Policky JL, Hurwitz BL, Ma Y, Jackson JL, Gietz Shi X, Suarez CJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%;
llarity 100.0%;
Conservative 0
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2002US-0410260P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 68; DB 6; Length 575; Pred. No. 0.018;
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                                                                                                                                                                                                                                                                                      Kirton ES;
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                                                                                                                                                                                                                                                              Gietzen
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therapy or

mapping

New diagnostic and therapeutic polynucleotides and polypeptides, useful in diagnosing a condition, disease or disorder associated with human molecules, e.g. autoimmune or inflammatory disorders, in gene therapy or

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ABM83781
ID ABM83781
ABM83781
AC ABM83
AC ABM84
AC ABM83

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                                                                                                                                                                                                                                                                                                   Schmidt JP, Wright RJ, Bruns CM, Marjanovic MM, Shen F; Harthshorne TA, Suchorolski MT, Altus CM, Pitts SJ, Elder LV; Mooney EM, Delegeane AM, Panesar IS, Banville SC, Reddy TP; Stevens KA, Blanchard JL, Panzer SR, Wang X, Au AP, Gerstin Peralta CH, Anderson SB, Rioux P, Shen EJ, Wu MC, Stuve LL; Lagace RE, Spiro PA, Stewart EA, Wingrove J, Vitt UA, Kirtor Xu Y, Kwong M, Policky JL, Hurwitz BL, Ma Y, Jackson JL, G:
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12-SEP-2002;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gene therapy; human diagnostic and therapeutic polynucleotide; dithp
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (INCY-) INCYTE CORP.
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                                                                                                                                                                                             2004-329368/30.
DB; ACN42433.
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                                                                                                                                                                                                                                                                                RE, Spiro PA, Stewar
Kwong M, Policky JL,
S, Shi X, Suarez CJ;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
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2002US-0410260P.
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Pred. No. 0.02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                 Gerstin EH;
                                                                                                                                                                                                                                                                                                                                                     Kirton ES;
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Claim 27; Page; 190pp; English

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RESULT 12
ABM83779
ID ABM837X
XX Gene
XX Gev
PN Harti
PI Harti
PI Harti
PI Lagaa
PI Lagaa
PI Laga
PI Laga
PI Laga
PI Laga
PI New
PI PET
PI ABM87
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Matches 13
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Peralta CH,
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                                                                                                           New diagnostic and therapeutic polynucleotides and polypeptides, useful in diagnosing a condition, disease or disorder associated with human molecules, e.g. autoimmune or inflammatory disorders, in gene therapy or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human diagnostic and therapeutic pprotein SEQ ID NO:4028
                                                                                                                                                                                                                                                            WPI; 2004-329368/30.
N-PSDB; ACN42431.
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12-SEP-2002; 2002US-0410260P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (INCY-) INCYTE CORP.
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                                                                        gene mapping.
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                                                                                                                                                                                                                                                                                                                                            w. u., Wright RJ, Bruns CM, Marjanovic MM, Shen F;
shorne TA, Suchorolski MT, Altus CM, Pitts SJ, Elder LV;
r EM, Delegeane AM, Panesar IS, Banville SC, Reddy TP;
18 KA, Blanchard JL, Panzer SR, Wang X, Au AP, Gerstin EH;
a CH, Anderson SB, Rioux P, Shen EJ, Wu MC, Stuve LL;
RE, Spiro PA, Stewart EA, Wingrove J, Vitt UA, Kirton ES;
Kwong M, Policky JL, Hurwitz BL, Ma Y, Jackson JL, Gietze
S, Shi X, Suarez CJ;
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Claim 27; Page; 190pp; English

New diagnostic and therapeutic polynucleotides and polypeptides, useful in diagnosing a condition, disease or disorder associated with human molecules, e.g. autoimmune or inflammatory disorders, in gene therapy or

Claim

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Page; 190pp;

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Stevens KA,
Peralta CH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human diagnostic and therapeutic pprotein SEQ ID NO:4027.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gene therapy;
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                                                                                                                                        WPI;
                                                                                                                                                                                                                                                                                                               (INCY-) INCYTE CORP.
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12-SEP-2002; 2002US-0410260P.
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, Spiro PA, Stewart
ong M, Policky JL,
Shi X, Suarez CJ;
                                                                                                                                                                                  wright RJ, Bruns CM, Marjanovic MM, Shen F;
TA, Suchorolski MT, Altus CM, Pitts SJ, Elder LV
Delegeane AM, Panesar IS, Banville SC, Reddy TP;
Blanchard JL, Panzer SR, Wang X, Au AP, Gerstin,
Anderson SB, Rioux P, Shen EJ, Wu MC, Stuve LL;
Spiro PA, Stewart EA, Wingrove J, Vitt UA, Kirton
ng M, Policky JL, Hurwitz BL, Ma Y, Jackson JL, G:
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ilarity 100.0%;
Conservative (
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Pred. No.
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                                                                                          New diagnostic and therapeutic polynucleotides and polypeptides, useful in diagnosing a condition, disease or disorder associated with human molecules, e.g. autoimmune or inflammatory disorders, in gene therapy o
                                                                                                                                                                                                                   Mooney EM, Delegeane AM, Panesar IS, Banville SC, Reddy TP; Stevens KA, Blanchard JL, Panzer SR, Wang X, Au AP, Gerstin Peralta CH, Anderson SB, Rioux P, Wu MC, Stuve LL; Lagace RE, Spiro PA, Stewart EA, Wingrove J, Vitt UA, Kirtor Xu Y, Kwong M, Policky JL, Hurwitz BL, Ma Y, Jackson JL, Geatury S, Shi X, Suarez CJ;
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12-SEP-2002;
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13; Conserv
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2002US-0410260P.
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Suchorolski MT, Altus CM, Pitts SJ, Elder L
Jeane AM, Panesar IS, Banville SC, Reddy TP;
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relates

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novel diagnostic and therapeutic polynucleotides

The sequence represents an angiotensin converting enzyme splice variant

gene therapy or

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Claim 27; Page; 190pp;

gene mapping.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Angiotensin converting enzyme splice variant; ACEV; interleukin 6; granulocyte colony stimulating factor receptor; glucagon; hypertrophy; platelet-derived endothelial cell growth factor; cardiovascular diseas cellular tumour antigen P53; cyclin-dependent kinase inhibitor 1C;
                                   Claim 4; Fig 38; 519pp; English
                                                                        Novel alternative splicing variants e.g. variant of angiotensin converting enzyme (ACEV), useful in identifying candidate compounds capable of binding to the variant and to detect anti-variant antibo
                                                                                                                                                                                                                                                                                                   17-NOV-1999;
10-DEC-1999;
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                                                                                                                                                                                                                                                                      CC (ACEV) polypeptide. The polypeptides of the invention include variants of CC granulocyte colony stimulating factor receptor, glucagon, interleukin 6, CC platelet-derived endothelial cell growth factor, cyclin-dependent kinase CC inhibitor 1C, cellular tumour antigen PS3, and vasoactive intestinal CC polypeptide receptor 2. The polypeptides and their associated nucleic CC candidate compounds capable of binding the molecules. The sequences of CC candidate compounds capable of binding the molecules. The sequences of CC disorders including cardiovascular diseases such as arteriosclerosis, CC myocardial infarction and coronary arterial thrombosis, renal diseases CC such as diabetic nephropathy, muscular diseases such as hypertrophy, CC immune disorders such as immune complex nephritis, multiple sclerosis, CC cancer, sarcoidosis, nonarcoidotic pulmonary granulomatous diseases such as asbestosis and vascular pathologies involving an endothelial CC abnormality such as deep vein thrombosis
                                                                                                                                                                                                                         Sequence 646 AA;
614 YEKYLGEEYVKAV 626
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US-08-461-333-2 US-09-158-313-2 US-09-158-313-2 US-08-476-798-2 US-08-154-019-4 US-08-461-333-4 US-08-461-333-4 US-08-461-333-4 US-08-461-06-2 US-08-461-06-2 US-08-461-06-2 US-08-461-07-4 US-08-461-07-4 US-08-461-07-2 US-09-158-313-4 US-08-476-798-4 US-09-158-317-2 US-09-265-577-2 US-09-33-739-2 US-09-633-739-2 US-09-633-739-2	-08-461-33-2 Sequence -08-161-33-2 Sequence -09-158-313-2 Sequence -08-476-798-2 Sequence -08-476-798-2 Sequence -08-250-308-2 Sequence -08-154-019-4 Sequence -08-461-333-4 Sequence -08-453-703-2 Sequence -08-453-703-2 Sequence -08-453-703-2 Sequence -08-453-703-2 Sequence -08-46-108-2 Sequence -08-45-108-2 Sequence -09-25-577-2 Sequence -09-263-739-2 Sequence -09-633-739-2 Sequence -09-633-739-2 Sequence	ហ	4	ω	ω	w	w	w	N	ب	_	-	۲	ب	w	w	w	_
		PCT-US93-03614-2	US-09-633-739-2	-09-265-577-	-08-476-798-	-08-456-108	-09-158-313	-08-464-167	-08-456-106	-08-453-703	-08-461-333		-08-250-308	-08-145-681	-08-476-798	-09-158-313	-08-464-167-	-08-461
Appl Appl Appl Appl Appl Appl Appl Appl		Appli	Appli	pp1 i	Appli	Appli	Appli	Appl 1	t Idd	pp1 i	ppli	ppli	t Idd	pp1i	pp1i	pp1i	ilgq	ppli

ALIGNMENTS

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Patent No. 5262177

Patent No. 5262177

APPLICANT: BROWN, J OSEPH P.; ESTIN, CHARLES D.; PLOWMAN, GREGORY

D.; HELLSTROM, KARL E.; ROSE, TIMOTHY M.; HELLSTROM, INGEGERD;

PURCHIO, ANTHONY F.; HU, SHIU-LOK; PENNATHUR, SRIDHAR

TITLE OF INVENTION: RECOMBINANT VIRUSES ENCODING THE HHUMAN

MUMBER OF SEQUENCES: 6

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/7230

FILING DATE: 27-JAN-1987

PRIOR APPLICATION NUMBER: 827,313

FILING DATE: 07-FEB-1986

SEQ ID NO:4:
                                                                                                                             Patent No. 5262177

Patent No. 5262177

APPLICANT: BROWN, J OSEPH P.; ESTIN, CHARLES D.; PLOWMAN, GREGORY

D.; HELLSTROM, KARL E.; ROSE, TIMOTHY M.; HELLSTROM, INGEGERD;

PURCHIO, ANTHONY F.; HU, SHIU-LOK; PENNATHUR, SRIDHAR

TITLE OF INVENTION: RECOMBINANT VIRUSES ENCODING THE HHUMAN

MELANOMA-ASSOCIATED ANTIGEN

NUMBER OF SEQUENCES: 6

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/7230

FILING DATE: 27-JAN-1987

PRIOR APPLICATION UMBER: 827,313

FILING DATE: 07-FEB-1986

SEQ ID NO:4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 2
5262177-4
                                                                                         5262177-4
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5262177-4
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Query Match 100.0%; S
Best Local Similarity 100.0%; F
Matches 13; Conservative 0;
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Best Local Similarity 100.0%;
Matches 13; Conservative (
                                                                                                            LENGTH: 696
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Score 68; DB 6; Length 696; Pred. No. 0.001; Indels
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Gaps

YEKYLGEEYVKAV

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RESULT 4
US-09-439-740-2
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US-08-175-158A-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-175-158A-2
                                                        GENERAL INFORMATION:
APPLICANT: FUNK, WE
APPLICANT: MAGGILLI
APPLICANT: MASON, I
APPLICANT: WOODWORT
                                                                                                                                                          Sequence 2, Application US/09439740 Patent No. 6825037
                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
APPLICANT: FUNK, Walter D.
APPLICANT: MacGILLIVRAY, ROSS T.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 698 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tent No.
APPLICANT: FUNK, Walter D.
APPLICANT: MASCHILIVRAY, ROSB T.A.
APPLICANT: MASCH, Anne B.
APPLICANT: MASCH, Anne B.
APPLICANT: WOODWORTH, ROBERT C.
TITLE OF INVENTION: RECOMBINANT TRANSFERRINS, TRANSFERRIN HALF-TITLE OF INVENTION: MOLECULES AND MUTANTS THEREOF NUMBER OF SEQUENCES: 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: prot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELECOMMUNICATION INFORMATION: TELEPHONE: (617) 227-7400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/832,029
FILING DATE: 06-FEB-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OPERATING SYSTEM: PC-D
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: MASON, Anne B.

APPLICANT: WOODWORTH, ROBERT C.

TITLE OF INVENTION: RECOMBINANT TRANSFERRINS, TRANSFERRIN HALF-
TITLE OF INVENTION: MOLECULES AND MUTANTS THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME: DeConti, Giulio A.
REGISTRATION NUMBER: 31,503
REFERENCE/DOCKET NUMBER: UVI-005CP2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/0 FILING DATE: 28-DEC-1993 CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET:
                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
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1 Similarity 100.0%;
13; Conservative 0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60 State Street, suite 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IBM PC compatible SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein
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                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                            0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 5
US-08-470-058-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 2, Application US/08470058 Patent No. 5817789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
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ZIP: 02109

ZIP: 02109

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

MEDIUM TYPE: IBM PC compatible

TOWNTYER: PC-DOS/MS-DOS
                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Ploppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Ve
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/470,058
FILING DATE: 06-JUN-1995
CLASSIFICATION: 530
CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 698 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: DeConti, Giulio A.
REGISTRATION NUMBER: 31,
REFERENCE/DOCKET NUMBER:
                 ATTORNEY/AGENT INFORMATION: NAME: Granahan, Patricia
                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS: ADDRESSEE: Hamilton,
                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Heartlein, Michael W.
APPLICANT: Lemontt, Jeffrey F.
TITLE OF INVENTION: Chimeric Proteins For Use in Transport
TITLE OF INVENTION: of a Selected Substance Into Cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OPERATING SYSTEM: PC-D
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELECOMMUNICATION INFORMATION: TELEPHONE: (617) 227-7400
                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US/09/439,740 FILING DATE: CLASSIFICATION:
                                                                                                                                                                                                                                                                             ADDRESSEE: Hamilton, Brook
STREET: Two Militia Drive
CITY: Lexington
                                                                                                                                                                                                                               ZIP: 02173
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NAME: Granahan, Pat:
REGISTRATION NUMBER:
                                                                                                                                                                                                                                             COUNTRY:
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60 State Street, suite 510
                                                                                                                                                                                                                                               USA
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               Patricia
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          31,503
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                                                                                                                                                                                                                                                                                                                           Smith & Reynolds, P.C
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                                                                                                                                 Version #1.30
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1042 YEKYLGEEYVKAV 1054

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US-09-037-188-2
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                                                                                                                       ; LENGTH: 1074 amino ac
TYPE: amino acid
; TOPOLOGY: unknown
; MOLECULE TYPE: protein
US-09-037-188-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; MOLECULE TYPE: protein US-08-470-058-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 2, Application US/09037188

Patent No. 6027921

GENERAL INFORMATION:
APPLICANT: Heartlein, Michael W.
APPLICANT: Lemontt, Jeffrey F.
APPLICANT: Concino, Michael F.
TITLE OF INVENTION: CHIMERIC PROTEINS FOR USE
TITLE OF INVENTION: IN TRANSPORT OF A SELECTED SUBSTANCE INTO CELLS
                                                                  Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local (
                                                     Matches
                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/09/037,188
FILING DATE: 02-MAR-1998
PRIOR APPLICATION DATA:
APPLICATION UNMBER:
APPLICATION NUMBER:
FILING DATE: 06-JUN-1995
ATTORNEY/AGENT INFORMATION:
NAME: Fraser, Ph.D., J.D., Janis K.
REGISTRATION NUMBER: 34,819
REFERENCE/DOCKET NUMBER: 07236/009002
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617/542-5070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
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TELEPHONE: 617-861-6240
TELEPAX: 617-861-9540
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 1074 amino acids
                                                                                                                                                                                                                               TELEX: 200154
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 1074 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows95
SOFTWARE: FastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson P.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: amino acids
TYPE: amino acids
STRANDEDNESS: unknown
TOPOLCGY: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STATE: Y
COUNTRY:
                                                                                                                                                                                                                                                                  TELEFAX: 617/542-8906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CITY: Boston
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                                                    1 Similarity
13; Conserv
1 YEKYLGEEYVKAV 13
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Similarity 100.0%;
13; Conservative 0,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             USA
                                                    Conservative
                                                  100.0%; Score 68; DB 3; L
100.0%; Pred. No. 0.0016;
n. Mismatches 0;
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Pred. No. 0.0016;
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                                                                                   Length 1074;
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                                                    Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: FASTEM: Windows 95
SOFTWARE: FASTEE for Windows Version 2.
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/285,310
FILLING DATE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/037,188
FILING DATE:
ATTORNEY/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 2, Application US/09285310 Patent No. 6262026
                                                                                                                                                                                                                 Sequence 4, Application US/08470058 Patent No. 5817789
                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                GENERAL INFORMATION:

APPLICANT: Heartlein, Michael W.

APPLICANT: Lemontt, Jeffrey F.

TITLE OF INVENTION: Chimeric Proteins For Use in Transport

TITLE OF INVENTION: of a Selected Substance Into Cells

NUMBER OF SEQUENCES: 12

CORRESPONDENCE ADDRESS:

ADDRESSE: Hamilton, Brook, Smith & Reynolds, P.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEX: 200154
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
NAME: Fraser, Ph.D., J.D., Ja
NAME: Fraser, Ph.D., Ja, B., Ja
REGISTRATION NUMBER: 34,819
REFERENCE/DOCKET NUMBER: 0723
TELECOMMUNICATION INFORMATION:
TELECHONE: 617,542-5070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY: USA
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatibl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 1074 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Lemontt, Jeffrey F.
APPLICANT: Concino, Michael F.
TITLE OF INVENTION: CHIMERIC PROTEINS
TITLE OF INVENTION: IN TRANSPORT OF A
NUMBER OF SEQUENCES: 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson
STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity 100.0%; Score 68; DB 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid TOPOLOGY: unknown
                                                  STREET:
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COUNTRY:
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                                                                                                                                                                                                                                                                                                                                   1042
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                                                  E: Hamilton, Brook,
Two Militia Drive
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USA
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                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
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SELECTED SUBSTANCE INTO CELLS
                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 1074;
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COMPUTER READABLE FORM: MEDIUM TYPE: Floppy

Floppy disk

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Best Local (
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                                                                                                                             COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows 95
SOTTWARE: FastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/037,188
FILING DATE: 02-MAR-1998
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE: 06-JUN-1995
ATTORNEY/AGENT INFORMATION:
NAME: Fraser, Ph.D., J.D., Janis K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: 617-861-6240
TELEPAX: 617-861-9540
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                       COUNTRY: USA
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                    NAME: Fraser, Ph.D., J.D., V. REGISTRATION NUMBER: 34,819 REGISTRATION NUMBER: 07.
TELECOMMUNICATION INFORMATION: TELEPHONE: 617/542-5070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Heartlein, Michael W. APPLICANT: Lemontt, Jeffrey F. APPLICANT: Concino, Michael F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Granahan, Patricia
REGISTRATION NUMBER: 32,227
REFERENCE/DOCKET NUMBER: TKT93-01
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/470,058
FILING DATE: 06-UN-1995
CIACLESTON.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION:
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STRANDEDNESS: un
                                  TELEFAX:
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13; Conserv
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FOR SEQ ID NO:
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                                      617/542-8906
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IN TRANSPORT OF A SELECTED SUBSTANCE INTO CELLS
                                                                                          07236/009002
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RESULT 11 US-08-145-681-6

Sequence 6, Application US/08145681

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                                                                                                                            ; MOLECULE TYPE: protein US-09-285-310-4
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US-09-285-310-4
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Best Local Similarity
Matches 13; Conserv
                                                               Matches
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                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Heartlein, Michael W.
APPLICANT: Concinc, Michael F.
APPLICANT: Concinc, Michael F.
TITLE OF INVENTION: CHIMERIC PROTEINS FOR USE
TITLE OF INVENTION: INTRANSPORT OF A SELECTED SUBSTANCE INTO CELLS
                                                                                                                                                                                                                            TELEFAX: 617/542-8906
TELEX: 200154
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows95
SOFTWARE: FastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
LENGTH: 1410 amino acids
TYPE: amino acid
                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                             NAME: Fraser, Ph.D., J.D., REGISTRATION NUMBER: 34,819
REGISTRATION NUMBER: 0.7
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617/542-5070
                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE:
PRIOR APPLICATION DATA:
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ADDRESSEE: Fish & Richardson P.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                              FILING DATE:
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES:
                                                   Y MALCH 100.0%;
Local Similarity 100.0%;
tes 13; Conservative 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER:
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STREET: 225 Franklin Street
                                                                                                                                                                                               LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP: 02110-2804
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1378
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                             1 YEKYLGEEYVKAV 13
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YEKYLGEEYVKAV 1390
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                                                                                                                                                                  unknown
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                                                                                                                                                                                                                                                                                                                 07236/009002
                                                              Score 68; DB 3;
Pred. No. 0.0022;
Mismatches 0;
                                                                                                                                                                                                                                                                                                                                              Janis K.
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                                                                                             Length 1410;
                                                               Indels
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                                                                                                                                                                                                                                                                                                                                  RESULT 12
                                                                                                                       GENERAL INFORMATION:
APPLICANT: Conneely, Orla M.
APPLICANT: Headon, Denis R.
APPLICANT: O'Malley, Bert W.
APPLICANT: May, Gregory S.
TITLE OF INVENTION: Production of Recomb
TITLE OF INVENTION: Various Organisms
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: 713/229/1522
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 703 emino acids
TYPE: emino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                                                                                         Sequence 6,
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GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
NAME: McGregor, Martin L.
REGISTRATION NUMBER: 29,329
REFERENCE/DOCKET NUMBER: 1992
TELECOMMUNICATION INFORMATION:
TELEPHONE: 713/229/1874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Conneely, Orla M.
APPLICANT: Headon, Denis R.
APPLICANT: O'Malley, Bert W.
APPLICANT: May Gregory S.
TITLE OF INVENTION: Production of Recombinant Lactoferrin
TITLE OF INVENTION: Various Organsims
NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORIGINAL SOURCE: ORGANISM: Sus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: protein HYPOTHETICAL: YES ANTI-SENSE: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/145,681
                                                                                       NUMBER OF SEQUENCES: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CITY: Houston
STATE: Texas
COUNTRY: USA
ZIP: 77002
                                                    STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
                                                                      ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                         671 YEKYLĞSEYVTAI 683
                                                                                                                                                                                                                                                                                                                                                                                                                            1 YEKYLGEEYVKAV 13
                                                                                                                                                                                                                                                                                             Application US/08453703
                 New York
                                                  1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            E: Baker & Botts, L.L.P. 910 Louisiana St
USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
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                                                                        Pennie & Edmonds
                                                                                                                                            Production of Recombinant Lac
and Lactoferrin Polypeptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 82.4%; Score 56; 76.9%; Pred. No.
                                                                                                           14
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               2
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                                                                                                                                          Lactoferrin
les Using cDNA Sequences
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOPTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/08/456,106
FILING DATE: Concurrently herewith
CLASSIFICATION: 435
PRIOR APPLICATION UMBER: 08/145,681
APPLICATION UMBER: 08/145,681
FILING DATE: October 28, 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 6, Patent No.
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Best Local Similarity
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INFORMATION FOR SEQ ID NO: 6:
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APPLICATION NUMBER: 08/145,681
FILING DATE: October 28, 1993
ATTORNEY/AGENT INFORMATION:
NAME: Albert P. Halluin
REGISTRATION NUMBER: 25,227
REFERENCE/DOCKET NUMBER: 8206-0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE:
HYPOTHETICAL: Y
ANTI-SENSE: NO
                                                                                                                                                                                            ZIP: 10036
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ZIP: 10036
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: May, Gregory S.

TITLE OF INVENTION: Production of Recombinant Lactoferrin
TITLE OF INVENTION: and Lactoferrin Polypeptides Using cDI
TITLE OF INVENTION: Various Organisms
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Conneely, Orla M. APPLICANT: Headon, Denis R. APPLICANT: O'Malley, Bert W. APPLICANT: May, Gregory S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
LENGTH: 703 amino acid
                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 1:
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELECOMMUNICATION INFORMATION:
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FILING DATE: Concurrently herewit
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                COUNTRY:
                                                                                                                                                                                                                                                                                        STATE: New York
                                                                                                                                                                                                                                                                                                           STREET: 1155 Avenue of the Americas CITY: New York
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TYPE: amino acid
TOPOLOGY: linear
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                                                                                                                                                                                                                                                                     USA
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76.9%;
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Pred. No. 0.13;
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REFERENCE/DOCKET NUMBER: 82
TELECOMMUNICATION INFORMATION:

TELEPHONE: 415-854-3660

ATTORNEY/AGENT INFORMATION: NAME: Albert P. Halluin

REGISTRATION NUMBER:

25,227

8206-025

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MOLECULE TYPE: protein
HYPOTHETICAL: YES
ANTI-SENSE: NO
ORIGINAL SOURCE:
ORGANISM: Sub scrofa
US-08-456-106-6
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Best Local Similarity
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                            TELEFAX: 415-854-3694
INFORMATION FOR SEQ ID NO: 6
SEQUENCE CHARACTERISTICS:
LENGTH: 703 amino acids
TYPE: amino acid
TYPE: amino acid
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INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 703 amino acids
                                                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/145,681
FILING DATE: October 28, 1993
ATTORNEY/AGENT INFORMATION:
NAME: Albert P. Halluin
REGISTRATION NUMBER: 25,227
REFERENCE/DOCKET NUMBER: 8206-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
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APPLICANT: Headon, Denis R.
APPLICANT: O'Malley, Bert W.
APPLICANT: May, Gregory S.
TITLE OF INVENTION: Production
TITLE OF INVENTION: various Or
                                                                                                                                                                                                                                                                                                                                            MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTMARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
 TOPOLOGY: 1: MOLECULE TYPE:
                                                                                                                          TELECOMMUNICATION INFORMATION: TELEPHONE: 415-854-3660
                                                                                                                                                                                                                                                                                                                                                                                                                   MEDIUM TYPE: Floppy
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ADDRESSEE: Pennie &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US/08/456,108 FILING DATE: Concurrently herewith CLASSIFICATION: 435
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CITY: New York
STATE: New York
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TYPE: amino acid
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                   linear
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protein
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76.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Production of Recombinant Lactoferrin
and Lactoferrin Polypeptides Using cDNA Sequences in
Various Organisms
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APPLICANT: Connecty, Orla M
APPLICANT: Headon, Denis R.
APPLICANT: Headon, Denis R.
APPLICANT: O'Malley, Bert W.
APPLICANT: May, Gregory S.
TITLE OF INVENTION: PRODUCTION OF RECOMBINANT LACTOPERRIN
TITLE OF INVENTION: AND LACTOPERRIN POLYPEPTIDES USING CDNA SEQUENCES IN VARIOUS
TITLE OF INVENTION: ORGANISMS
FILE REFERENCE: 01380023US01
CURRENT PAPLICATION NUMBER: US/09/265,577
CURRENT PAPPLICATION NUMBER: US/09/265,577
CURRENT FILING DATT: 1999-03-09
NUMBER OF SEQ ID NOS: 14
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 6
SEQ ID NO 6
LENGTH: 703
TYPE: PRT
ORGANISM: Sus scrofa
Search completed: November 1, 2005, 12:57:31 Job time : 19.1176 secs
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Best Local Similarity
Matches 10; Conserve
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US-09-265-577-6
                                                                                                                                       Matches
                                                                                                                                                                       Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 6, Application US/09265577 Patent No. 6228614
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ANTI-SENSE: NO
ORIGINAL SOURCE:
                                                                                                                                   Local Similarity
es 10; Conserv
                                                                  671
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                                                                                                     1 YEKYLGEEYVKAV 13
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                                                                  YEKYLGSEYVTAI 683
                                                                                                                                       Conservative
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                                                                                                                                                       82.4%;
76.9%;
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                                                                                                                                       1; Mismatches
                                                                                                                                                       Score 56; DB 3
Pred. No. 0.13;
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Pred. No. 0.13;
1; Mismatches
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Result
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Database
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                                                                                                                                                                                                                                                                                                                                                                       Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                   Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                seq length: 0
seq length: 2000000000
         Published Applications AA:*

1: /cgn2_6/ptcdata/1/pubpaa/US07_PUBCOMB.pep:*

2: /cgn2_6/ptcdata/1/pubpaa/US06_NEW_PUB.pep:*

3: /cgn2_6/ptcdata/1/pubpaa/US06_NEW_PUB.pep:*

4: /cgn2_6/ptcdata/1/pubpaa/US06_PUBCOMB.pep:*

6: /cgn2_6/ptcdata/1/pubpaa/US08_NEW_PUB.pep:*

7: /cgn2_6/ptcdata/1/pubpaa/US08_PUBCOMB.pep:*

8: /cgn2_6/ptcdata/1/pubpaa/US08_PUBCOMB.pep:*

9: /cgn2_6/ptcdata/1/pubpaa/US09_PUBCOMB.pep:*

9: /cgn2_6/ptcdata/1/pubpaa/US09_PUBCOMB.pep:*

10: /cgn2_6/ptcdata/1/pubpaa/US09_PUBCOMB.pep:*

11: /cgn2_6/ptcdata/1/pubpaa/US09_PUBCOMB.pep:*

12: /cgn2_6/ptcdata/1/pubpaa/US09_PUBCOMB.pep:*

13: /cgn2_6/ptcdata/1/pubpaa/US09_PUBCOMB.pep:*

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15: /cgn2_6/ptcdata/1/pubpaa/US10_PUBCOMB.pep:*

16: /cgn2_6/ptcdata/1/pubpaa/US10_PUBCOMB.pep:*

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18: /cgn2_6/ptcdata/1/pubpaa/US10_PUBCOMB.pep:*

19: /cgn2_6/ptcdata/1/pubpaa/US10_PUBCOMB.pep:*

19: /cgn2_6/ptcdata/1/pubpaa/US10_PUBCOMB.pep:*

20: /cgn2_6/ptcdata/1/pubpaa/US10_PUBCOMB.pep:*

21: /cgn2_6/ptcdata/1/pubpaa/US10_PUBCOMB.pep:*
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Match
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68
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      BLOSUM62
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                                                                                                                                                                                                                                                                   Length
      137
328
328
679
679
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         15
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5 US-10-612-162-4

5 US-10-378-094-16

5 US-10-384-060-38

5 US-10-231-494-27

10 US-10-383-201-12

10 US-09-891-1265-745-5

14 US-10-266-745-5

15 US-10-384-094-3

15 US-10-378-094-3

15 US-10-384-094-3

16 US-10-314-94-3

16 US-10-429-482-4
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Sequence 4, Appli
Sequence 16, Appl
Sequence 38, Appl
Sequence 27, Appl
Sequence 12, Appl
Sequence 5, Appli
Sequence 5, Appli
Sequence 3, Appli
Sequence 3, Appli
Sequence 4, Appli
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NS-03-831-176-4	S-1U-48/-556	-10-513-523-	-10-620-256	0-169-297-	-10-205-331-	0-316-253-27	-10-316-253-	20-256-	0-769-514-	14-	-10-473-127-	US-10-473-127-805	-09-753-385-	3-38	0-513-523-	87-	-383-201-	-10-383-201-	-10-231-494-	-384-060-	-378-094-	9	-654-	55-	-10-429-662-	0-429-660-	US-10-429-661-4	-65	US-10-429-653-4	US-10-429-635-4	-10-429-59	US-10-429-515-4	US-10-429-497-4
sequence 4, Appli	TIC	Z, Appı	4, Appi	e 8, Appl	e 55, /	e 275	273,	e 6, Ap	47, App	e 14, /	e 804	e 805,	4.	e 2, 1	e 3, Appl	e 2,	14, App	10,	æ	2,	e 2,	٠ ص	•	e 4,	e 4,	е4,	e 4	Sequence 4, Appli	е4,	e 4, Appi	e 4, Appl	е4,	e 4, Appl

## ALIGNMENTS

RESULT 2 US-10-378-094-16

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APPLICANT: SADEGHI, Homayoun
APPLICANT: TURNER, Andrew
TITLE OF INVENTION: MODIFIED TRANSFERRIN FUSION PROTEINS
FILE REFERENCE: 54710-5001-01-US
CURRENT APPLICATION NUMBER: US/10/378,094
CURRENT FILING DATE: 2003-03-04
PRIOR APPLICATION NUMBER: US 10/231,494
PRIOR APPLICATION NUMBER: US 60/314,059
PRIOR APPLICATION NUMBER: US 60/334,059
PRIOR APPLICATION NUMBER: US 60/334,745
PRIOR APPLICATION NUMBER: US 60/315,745
PRIOR APPLICATION NUMBER: US 60/315,745
PRIOR APPLICATION NUMBER: US 60/315,745
PRIOR FILING DATE: 2001-08-30
PRIOR FILING DATE: 2001-08-30
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Publication No.
                      Query Match
Best Local &
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     Matches
                                                                                               OTHER INFORMATION: C2 domain of huma Tf -10-384-060-38
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                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 80
SOFTWARE: PatentIn version 3.2
SEQ ID NO 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: SADEGHI, Homayoun
APPLICANT: PRIOR, Christopher P.
APPLICANT: TURNER, Andrew
TITLE OF INVENTION: MODIFIED TRANSFERRIN-ANTIBODY FUSION PROTEINS
FILE REFERENCE: 54710-5004-US
                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION NUMBER: US 60/315,745
PRIOR FILING DATE: 2001-08-30
PRIOR APPLICATION NUMBER: US 60/406,977
PRIOR FILING DATE: 2002-08-30
                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: US 10/231,494
PRIOR TILING DATE: 2002-08-30
PRIOR APPLICATION NUMBER: US 60/334,059
PRIOR FILING DATE: 2001-11-30
PRIOR PRIOR DATE: 2001-11-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION NUMBER: US/10/384,060 CURRENT FILING DATE: 2003-03-10
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APPLICANT: LAI, Char-Hues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 49
TYPE: PRT
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NAME/KEY: misc feature
OTHER INFORMATION: C2
                                                                                                                                             LENGTH: 49
TYPE: PRT
ORGANISM: Artificial sequence
FEATURE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           37 YEKYLGEEYVKAV 49
ch 100.0%; Score 68; DB 15; Length 49; l Similarity 100.0%; Pred. No. 0.00075; 13; Conservative 0; Mismatches 0; Indels
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No. US20030221201A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Score 68; DB 15; llarity 100.0%; Pred. No. 0.00075; Conservative 0; Mismatches 0;
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US-10-231-494-27
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                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: 60/365,984
PRIOR FILLING DATE: 2002-03-20
PRIOR APPLICATION NUMBER: 60/372,022
PRIOR FILLING DATE: 2002-04-12
PRIOR APPLICATION NUMBER: 60/389,143
PRIOR FILLING DATE: 2002-06-14
PRIOR APPLICATION NUMBER: 60/391,779
PRIOR APPLICATION NUMBER: 60/391,779
PRIOR FILLING DATE: 2002-06-26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 27, Applica Publication No. US20 GENERAL INFORMATION:
                                                              SOFTWARE: CO
SEQ ID NO 12
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CURRENT APPLICATION NUMBER: US/10/383,201
CURRENT FILING DATE: 2003-03-06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Alsobrook II, John et al. TITLE OF INVENTION: THERAPEUTIC POLYPEPTIDES, NUCLEIC ACIDS ENCODING SAME, AND METHOD FILE REFERENCE: 21402-568A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: US 60/334,059
PRIOR FILLING DATE: 2001-11-30
NUMBER OF SEQ ID NOS: 30
SOFTWARE: Patentin Ver. 2.1
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FILE REFERENCE: 54710-5001-US
CURRENT APPLICATION NUMBER: US/10/231,494
CURRENT FILING DATE: 2002-08-30
                                                                                                             NUMBER OF SEQ ID NOS:
                                                                                                                                PRIOR APPLICATION NUMBER: PRIOR FILING DATE: 2002-01
                                                                                                                                                                              PRIOR APPLICATION NUMBER: 60/366,928 PRIOR FILING DATE: 2002-03-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION NUMBER: 10/029020 PRIOR FILING DATE: 2001-12-19
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                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: 10/051,874
PRIOR FILING DATE: 2002-01-16
                                                                                                                                                                                                                                                                         PRIOR FILING DATE: 2002-09-23
                                                                                                                                                                                                                                                                                            PRIOR FILING DATE: 2002-09-13
PRIOR APPLICATION NUMBER: 60/412,957
                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: 60/410,755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
OTHER INFORMATION: Description of Artificial Sequence:
OTHER INFORMATION: peptide insertion region
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TYPE: PRT
ORGANISM: Homo
                                      ENGTH:
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                                          137
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                                                                                   CuraSeqList version 0.1
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to. US20040023334A1
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                                                                                                                                   2002-01-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; Score 68; DB 15; 100.0%; Pred. No. 0.00075;
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SEQ ID NO 5
LENGTH: 328
TYPE: PRT
ORGANISM: Homo sapiens
US-10-266-745-5
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US-10-266-745-5
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                                                                                                                                                                                                                                                                      FILE REFERENCE: P7035P1
CURRENT APPLICATION NUMBER: US/10/266,745
CURRENT FILING DATE: 2002-10-09
PRIOR APPLICATION NUMBER: US/09/891,126
PRIOR FILING DATE: 2001-06-26
PRIOR APPLICATION NUMBER: PCT/US00/34769
PRIOR FILING DATE: 2000-12-21
PRIOR APPLICATION NUMBER: 60/171,595
PRIOR FILING DATE: 1999-12-23
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Patent No. US20020072598A1
GENERAL INFORMATION:
APPLICANT: Ruben et al.
TITLE OF INVENTION: Transferrin Polynucleotides, Polypeptides, and Antibodies
FILE REFERENCE: PT035P1
                                                                  Query Match 100.0%; Score 68; DB 14; Best Local Similarity 100.0%; Pred. No. 0.0057; Matches 13; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: PatentIn Ver. 2.0 . SEQ ID NO 5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION NUMBER: PCT/US00/34769
PRIOR FILING DATE: 2000-12-21
PRIOR APPLICATION NUMBER: 60/171,595
PRIOR FILING DATE: 1999-12-23
NUMBER OF SEQ ID NOS: 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/09/891,126
CURRENT FILING DATE: 2001-06-26
                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Ruben et al.
TITLE OF INVENTION: Transferrin Polynucleotides, Polypeptides, and Antibodies
                                                                                                                                                                                                                                                         NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT
ORGANISM: Homo sapiens
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296 YEKYLGEEYVKAV 308
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                     1 YEKYLGEEYVKAV 13
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                                                                                                      Length 328;
                                                                      Indels
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APPLICANT: TURNER, Andrew
ITILE OF INVENTION: MODIFIED TRANSFERRIN FUSION PROTEINS
FILE REFERENCE: 54710-5001-01-US
CURRENT APPLICATION NUMBER: US/10/378,094
CURRENT FILING DATE: 2003-03-04
PRIOR APPLICATION NUMBER: US 10/231,494
PRIOR FILLNG DATE: 2002-08-30
PRIOR APPLICATION NUMBER: US 60/334,059
PRIOR APPLICATION NUMBER: US 60/334,059
PRIOR APPLICATION NUMBER: US 60/315,745
PRIOR FILING DATE: 2001-08-30
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US-10-378-094-3
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                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: US 10/231,494
PRIOR FILING DATE: 2002-08-30
PRIOR APPLICATION NUMBER: US 60/334,059
PRIOR FILING DATE: 2001-11-30
PRIOR APPLICATION NUMBER: US 60/315,745
PRIOR APPLICATION NUMBER: US 60/406,977
PRIOR FILING DATE: 2002-08-30
PRIOR FILING DATE: 2002-08-30
NUMBER OF SEQ ID NOS: 80
                                                                                                                                                         SOFTWARE: PatentIn version 3.2
SEQ ID NO 3
LENGTH: 679
TYPE: PRT
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Publication No. US20030221201A1
Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: SADEGHI, Homayoun
APPLICANT: PRIOR, Christopher P.
APPLICANT: TURNER, Andrew
TITLE OF INVENTION: MODIFIED TRANSFERRIN-ANTIBODY FUSION PROTEINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: PRIOR, Christopher APPLICANT: LAI, Char-Huei APPLICANT: SADEGHI, Homayoun
                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILE REFERENCE: 54710-5004-US
CURRENT APPLICATION NUMBER: US/10/384,060
CURRENT FILING DATE: 2003-03-10
                                                               FEATURE:
NAME/KEY: MISC_FEATURE
OTHER INFORMATION: Mature Transferrin Protein
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NAME/KEY: MISC_FEATURE
OTHER INFORMATION: Mature Transferrin Protein
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TYPE: PRT
ORGANISM: Homo sapiens
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Pred. No. 0.012;
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Sequence 3, Application US/10231494

Publication No. US20040023334A1

GENERAL INFORMATION:
APPLICANT: Prior, Christopher P.
TITLE OF INVENTION: Modified Transferrin Fusion Proteins
FILE REFERENCE: 54710-5001-US

CURRENT APPLICATION NUMBER: US/10/231,494

CURRENT FILING DATE: 2002-08-30

PRIOR APPLICATION NUMBER: US 60/315,745

PRIOR REFILING DATE: 2001-08-30

PRIOR FILING DATE: 2001-08-30

PRIOR FILING DATE: 2001-01-30

PRIOR FILING DATE: 2001-01-30

PRIOR FILING DATE: 2001-01-30

NUMBER OF SEG ID NOS: 30

SOFTWARE: Patentin Ver. 2.1

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; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-429-482-4
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US-10-429-482-4
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TITLE OF INVENTION: Composition Useful For The Diagnosis, Imaging and Treatment Of Tu
FILE REFERENCE: 2537.000001
CURRENT APPLICATION NUMBER: US/10/429,482
CURRENT FILING DATE: 2003-05-02
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin version 3.1
SEQ ID NO 4
 Sequence 4, Application US/10429497 Publication No. US20040219098A1 GENERAL INFORMATION:
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Best Local (
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TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
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TITLE OF INVENTION: Composition Useful For Th
FILE REFERENCE: 2537.000003
CURRENT APPLICATION NUMBER: US/10/429,598
CURRENT FILING DATE: 2003-05-02
NUMBER OF SEQ ID NOS: 6
SOFTWARE: Patentin version 3.1
SEQ ID NO 4
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; ORGANISM: Homo sapiens
US-10-429-497-4
                                                                                                                      ; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-429-598-4
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US-10-429-598-4
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CURRENT FILING DATE: 2003-05-02
NUMBER OF SEQ ID NOS: 6
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
LENGTH: 679
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Publication No. US20040219099A1
GENERAL INFORMATION:
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TITLE OF INVENTION: Methods For The Treatment of Tumors
FILE REFERENCE: 2537,00006
CURRENT APPLICATION NUMBER: US/10/429,497
CURRENT FILING DATE: 2003-05-02
NUMBER OF SEQ ID NOS: 6
SOFTWARE: Patentin version 3.1
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TITLE OF INVENTION: Methods For The Treatment
FILE REFERENCE: 2537.000005
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; Sequence 4, Application US/10429635
; Publication No. US20040219101A1
; GRNERAL INFORMATION: Composition Useful For Treatment Of Tumors
; APPLICANT: Sandhu, Jasbbr
; TITLE OF INVENTION: Composition Useful For Treatment Of Tumors
; FILE REFERENCE: 2537.00007
; CURRENT APPLICATION NUMBER: US/10/429,635
; CURRENT APPLICATION NUMBER: US/10/429,635
; CURRENT FILING DATE: 2003-05-02
; NUMBER OF SEQ ID NOS: 8
; SOFTMARE: PatentIn version 3.1
; SEQ ID NO 4
; SEQ ID NO 4
; SEQ ID NO 4
; SEQ FILE PRT
; ORGANISM: Homo sapiens
US-10-429-635-4

Query Match
Best Local Similarity 100.0%; Score 68; DB 16; Length 679;
Best Local Similarity 100.0%; Pred. No. 0.012;
Matches 13; Conservative 0; Mismatches 0; Gaps 0;
Matches 13; Conservative 0; Mismatches 0; Gaps 0;

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A;Residues: 1-72;291-300 <auny 119,="" 1984="" 273-281,="" 422-690,'g',="" 692-698="" <uza="" a32739="" a32739;="" a;accession:="" a;cross-references:="" a;molecule="" a;reference="" a;residues:="" a;title:="" analysis="" and="" besmond,="" biochem.="" biophys.="" c.;="" cdna="" cloning="" commun.="" embl:m15673="" for="" frain,="" g.;="" human="" i.;="" j.s.;="" m.="" m.;="" maessen,="" molecular="" mrna="" muid:84153910;="" number:="" of="" park,="" pmid:6322780="" r;cross-references:="" r;uzan,="" res.="" sequence="" transferrin.="" trepat,="" type:="" zakin,=""> A;Cross-references: EMBL:M12525; NID:g339468; PIDN:AAA61142.1; PID:g339469 A;Cross-references: EMBL:M12525; NID:g339468; PIDN:AAA61142.1; Lineback-Zins, J.; Proc. Natl. Acad. Sci. U.S.A. 79, 2504-2508, 1982</auny>	R;Park, I.; Schaeffer, E.; Sidoli, A.; Baralle, F.E.; Cohen, G.N.; Zakin, M.M. Proc. Natl. Acad. Sci. U.S.A. 82, 3149-3153, 1995 A;Title: Organization of the human transferrin gene: direct evidence that it originated A;Reference number: A94044; MUID:85216459; PMID:3858812 A;Accession: A94044 A;Molecule type: DNA A;Residues: 73-263, 'B', 265-328, 'N', 330-562 <par> A;Coss-references: EMBL:M11361 R;Adrian, G.S.; Korinek, B.W.; Bowman, B.H.; Yang, F. Gene 49, 167-175, 1986 A;Title: The human transferrin gene: 5' region contains conserved sequences which match A;Reference number: A29090; MUID:87192006; PMID:3106157 A;Accession: A29090 A;Molecule type: DNA A;Molecule type: DNA A;Molecule type: DNA</par>	RESULT 1  TFHUP  transferrin precursor [validated] - human  N,Alternate names: siderophilin  C;Species: Homo sapiens (man)  C;Species: Homo sapiens (man)  C;Accession: A20981, A92417; A94044; A29090; A32739; I51959; I63133; I54011; I68160; A03  C;Accession: A20981, A92417; A94044; A29090; A32739; I51959; I63133; I54011; I68160; A03  R;Yang, F; Lum, J.B.; McGill, J.R.; Moore, C.M.; Naylor, S.L.; van Bragt, P.H.; Baldwin  R;Yang, F; Lum, J.B.; McGill, J.R.; Moore, C.M.; Naylor, S.L.; van Bragt, P.H.; Baldwin  R;Yang, F; Lum, J.B.; McGill, J.R.; Moore, C.M.; Naylor, S.L.; van Bragt, P.H.; Baldwin  R;Yang, F; Lum, J.B.; McGill, J.R.; Moore, C.M.; Naylor, S.L.; van Bragt, P.H.; Baldwin  R;Yang, F; Lum, J.B.; McGill, J.R.; Moore, C.M.; Naylor, S.L.; van Bragt, P.H.; Baldwin  R;Yang, F; Lum, J.B.; McGill, J.R.; Moore, C.M.; Naylor, S.L.; van Bragt, P.H.; Baldwin  A;Title: Human transferrin: A20981; MUID:84194084; PMID:6585826  A;Reference number: A20417; MUID:84160818; PMID:6333213  A;Title: The primary structure of human serum transferrin. The structures of seven cyano  A;Reference number: A92417; MUID:83160878; PMID:6833213  A;Residues: 20-263, 'E', 265-328, 'N', 330-379, 'SD', 382-435, 'D', 437-557, 'T', 559-560, 'P', 562-  A;Note: the sequence shown is the predominant electrophoretic genetic variant (C or TfC)
M.M.; Kal	pinated match	Baldwin  Baldwin  D:g3394  Brew,  Cyano  P',562-  Or TfC)

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A;Status: type: mRNA
A;Realduse: type: mRNA
A;Realduse: 636-696 <RE2>
A;Realduse: 636-696 <RE2>
A;Realduse: 636-696 <RE2>
A;Cross-references: GB:M26641; NID:g339988; PIDN:AAA61233.1; PID:g339989
A;Cross-references: GB:M26641; Jeltsch, J.M.; Py, M.C.; Levin, M.J.; Chambon, P.; Cohen, R;Schaeffer, E.; Lucero, M.A.; Jeltsch, J.M.; Py, M.C.; Levin, M.J.; Chambon, P.; Cohen, Gene 56, 109-116, 1987
Gene 56, 109-116, 1987
A;Title: Complete structure of the human transferrin gene. Comparison with analogous chills.
C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 30-Sep-1993 #sequence revision 30-Sep-1993 #text change 22-Jun-1999
C;Accession: $16246; A61239; C61573; S0035; S02694; A26504; S14853
R;Banfield, D.K.; Chow, B.K.C.; Funk, W.D.; Robertson, K.A.; Umelas, T.M.; W. Biochim. Biophys. Acta 1089, 262-265, 1991
A;Title: The nucleotide sequence of rabbit liver transferrin cDNA.
A;Reference number: $16246; MUID:91274362; PMID:2054387
A;Accession: $16246
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A;Title: A cloned gene for human transferrin.
A;Reference number: IS1959; MUID:92231399; PMID:1809186
A;Accession: IS1959
A;Status: translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                 transferrin precursor - rabbit
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A;Map position: 3g21-3g21
A;Introns: 15/1; 72/3; 119/1; 168/1; 212/2; 231/1; 290/3; 350/1; 401/3; 433/1; 444/1;
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A;Residues: 564-698 <RE4>
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A;Accession: I68160
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A; Residues: 1-72 < RE3 >
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ilarity 100.0%;
Conservative 0
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Pred. No. 0.0012;
Pred. No. 0.0012;
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A; Molecule type: protein
A; Rocaldues: 19-45, '8', 47-48, 'Y', 50 <GOD>
A; Residues: 19-45, '8', 47-48, 'Y', 50 <GOD>
A; Residues: 19-45, '8', 47-48, 'Y', 50 <GOD>
A; Residues: 19-42, 1988

FEBS Lett. 238, 39-42, 1988
A; Title: Evidence for a single glycan moiety in rabbit serum transferrin and location of A; Reference number: $02694 MUID:89005676; PMID:3169252
A; Accession: $02694
A; Molecule type: protein
A; Residues: 482-515, 'V', 517-544 <EVA>
A; Molecule type: protein
A; Reaphy, S: Williams, J.
Biochem. J. 2055, 611-617, 1982
A; Title: The preparation and partial characterization of N-terminal and C-terminal iron-A; Reference number: A26504; MUID:83074540; PMID:6816218
A; Residues: 19-24, 'N', 26, 'X', 28-29, 'S' <HEA>
C; Superfamily: transferrin; transferrin repeat homology
C; Superfamily: transferrin; transferrin repeat homology
F; 19-694/Product: transferrin #status predicted <SIG>
F; 19-349/Domain: transferrin repeat homology <TRH1>
F: 18-269/Domain: transferrin
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A, Title: Isolation, characterization and N-terminal amino-acid sequence A, Reference number: S00335; MUID:88209278; PMID:3365331
A, Accession: S00335
A, Molecula France
                                                                                                                                                                                  lactoferrin precursor - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 17-Feb-1994 #sequence_revision 17-Feb-1994 #text_change
C;Accession: A45543; S24173
C;Accession: A45543; S24173
Anim. Genet. 23, 251-256, 1992
A;Fitle: Cloning and sequencing of the porcine lactoferrin cDNA.
A;Reference number: A45543; MUID:92367939; PMID:1503259
A;Accession: A45543
A;Accession: A45543
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A;Residues: 19-36 <PIE>
A;Residues: 19-36 <PIE>
R;Chung, M.C.M.; Chan, S.L.; Shimizu, S.
Int. J. Biochem. 23, 609-616, 1991
Int. J. Biochem. 23, 609-616, 1991
A;Title: Purification of transferrins and lactoferrin using A;Reference number: A61573; MUID:91293379; PMID:2065820
A;Accession: C61573
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F;27-66,37-57,136-212,155-349,176-192,179-195,189-197,245-259,357-611,363-395,373-386,42
F;508/Binding site: carbohydrate (Asn) (covalent) #status experimental
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A;Residues: 19-26,'X',28-36,'X',38-53 <CHU>
R;Godovac-Zimmermann, J.
A;Experimental source: mammary gland A;Note: sequence extracted from NCBI
                                                                    A; Cross-references: UNIPROT: P14632
                                                                                                              A; Molecule type: mRNA
A; Residues: 1-703 < ALE>
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Immunol. 134, 225-234, 1991
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Pred. No. 0.062;
backbone (NCBIN:111151,
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NCBIP:111153)
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transferrin precursor - rat

N/Alternate names: lung-derived growth factor; siderophilin

C/Species: Rattus norvegicus (Norway rat)

C/Species: Rattus norvegicus (Norway rat)

C/Date: 16-Feb-1995 #sequence revision 12-May-1995 #text change 09-Jul-2004

C/Accession: S49163; S54980; A30014; A14679; A53289; A30512; I52203

C/Accession: S49163; S54980; A30014; A14679; A53289; A30512; I52203

R/SBCTIVA, H.; Pierce, A.; Coddeville, B.; Gonzalez, F.; Benaissa, M.; Leger,
submitted to the BMBL Data Library, January 1994

submitted to the BMBL Data Library, January 1994
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R;Le Provost, F.; NOCart, M.; Guerin, G.; Martin, P. Biochem. Biophys. Res. Commun. 203, 1324-1332, 1994

A;Title: Characterization of the goat lactoferrin cDNA: A;Reference number: JC2323; MUID:94380047; PMID:8093048

A;ACCGBBION: JC2323.
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F;38-62,38-53,129-212,171-187,184-195,245-259,362-394,372-385,419-698,439-661,471-546,49
F;77,107,206,267/Binding site: iron (Asp. Tyr. Tyr. His) #status predicted
F;135/Binding site: carbonate (Arg) #status predicted
F;409,447,540,609/Binding site: iron (Asp. Tyr. Tyr. His) #status predicted
F;477/Binding site: carbonate (Arg) #status predicted
F;477/Binding site: carbohydrate (Asn) (covalent) #status predicted
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A;Accession: S24173
                                                               A, Reference number: 849163
A, Accession: 849163
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A; Residues: 1-708 < LEP >
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A,Cross-references: EMBL:M92089; NID:g164613; PIDN:AAA31102.1; PID:g164614
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A, Residues: 1-11, 'W',
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C./Species: Capra aegagrus hircus (domestic goat)
C./Date: 20-Fe______ #sequence_revision 20-Feb-1995 #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Superfamily: transferrin; transferrin repeat homology;
Keywords: duplication; glycoprotein
;359-696/Domain: transferrin repeat homology <TRH2>
;252,300,387,495,564/Binding site: carbohydrate (Asn) (covalent)
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                                                                                                                      Rat mammary gland transferrin:
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76.9%;
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Pred. No. 0.21;
1; Mismatches
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Pred. No. 0.14;
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carbonic anhydrase II inhibitor (transferrin homolog) precursor - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change 09-Jul-2004
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RESULT 6
I47228
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A;Molecule type: protein
A;Molecule type: protein
A;Molecule type: protein
A;Molecule type: protein
A;Residues: 89, "Y', 91, "A', 93-99, "V', 101-102; "N', 233, "AN', 236-243;401-406, "N',
A;Experimental source: lung
A;Note: sequence modified after extraction from NCBI backbone
A;Note: sequence extracted from NCBI backbone (NCBIP:86115, NCBIP:86116, NCBI
A;Furves, L.R.; Purves, M.; Linton, N.; Brandt, W.; Johnson, G.; Jacobs, P.
Biochim. Biophys. Acta 966, 318-327, 1988
A;Title: Properties of the transferrin associated with rat intestinal mucosa.
A;Reference number: A30512; MUID:88327006; PMID:3046665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Residues: 20-30;639-643,'KD',646,'LKACD' <PUR>
R;Aldred, A.R.; Howlett, G.J.; Schreiber, G.
Biochem. Biophys. Res. Commun. 122, 960-965, 1984
A;Title: Synthesis of rat transferrin in Escherichia co
A;Reference number: I52203; MUID:84307580; PMID:6236811
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A; Title: Transferrin messenger ribonucleic acid: molecular cloning and horm A; Reference number: A30014; MUID:87053639; PMID:3023031
A; Accession: A30014
A; Molecula type: mRNA
A; Residues: 518-687; 'D', 689-692, 'TA', 695 < HUG>
A; Cross-references: GB:M27966; NID:g207439; PIDN:AAA42267.1; PID:g207440
A; Schreiber, G.; Dryburgh, H.; Millership, A.; Matsuda, Y.; Inglis, A.; Phi
J; Biol. Chem. 254, 12013-12019, 1979
A; Title: The synthesis and secretion of rat transferrin.
A; Reference number: A14679; MUID:80049855; PMID:500689
A; Accession: A14679; MUID:80049855; PMID:500689
A; Accession: A14679
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F;20-348/Domain: transferrin repeat homology <TRH1>
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A;Cross-references: GB:M26113; NID:g207437; PIDN:AAA42266.1;
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A; Residues: 7-25, 'X',
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A;Residues: 20-47 <SCN:
R;Cavanaugh, P.G.; Nicolson, G.L.
T; Cell. Blochem. 47, 261-271, 1991
A;Title: Lung-derived growth factor that stimulates the growth of lung-metastasizing tun
A;Reference number: A53289; MUID:92165927; PMID:1791188
A;Accession: A53289
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A;Status: preliminary
A;Molecule type: mRNA
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Best Local S
Matches 9
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Residues: 1-695 <ES2>
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nes 9; Conserv
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Pred. No. 0.99;
3; Mismatches
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A;ACCEBBLUI. A;AMOLECULE type: mRNA
A;Molecule type: mRNA
A;Residues: 1-65,'PG',68-296,'S',298-339,'A',341-708 <GOO:
A;Cross-references: GB:M63502
A;Note: the authors translated the codon CCG for residue |
R;Mead, P.E.; Tweedie, J.W.
Nucleic Acids Res. 18, 7167, 1990
A;Title: cDNA and protein sequence of bovine lactoferrin.
*.paference number: S13097; MUID:91088328; PMID:2263492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FASEB J. 6, 233, 1991
A;Title: Cloning of a 80-kD advanced glycosylation A;Reference number: I45919
A;Accession: I45919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Species: Bos primigenius taurus (cattle)
C;Date: 31-Mar-1992 #Bequence revision 21-Nov-1997 #text change 09-Jul-2004
C;Accession: I45919; S14674; S14110; S18517; JT0595; S13097; S18518; S13881; R;Tsang, T.C.; Burns, D.K.; Wang, F.; Pan, Y.
FASEB J. 6, 233, 1991
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A;Title: Purification and characterization of a carbonic anhydrase
A;Reference number: I47228; MUID:93099129; PMID:1463741
                                                                                                                                                                                                                                                   Biochem. Biophys. Res. Commun. 180, 75-84, 1991
A;Title: Bovine lactoferrin mRNA: sequence, analysis, and
A;Reference number: JT0595; MUID:92028986; PMID:1718281
                                                                                                                                                                                                                                                                                                                                A;Molecule type: protein
A;Residues: 20-35;82-114;148-163,'PP',166-178,'V','P';183-190;205-212;230-239;304-339;59
R;Goodman, R.E.; Schanbacher, F.L.
                                                                                                                                                                                                                                                                                                                                                                                                           A;Molecule type: mRNA
A;Residues: 3-144,'V',146-339,'A',341-438,'Y',440-513,'R',515-708
A;Cross-references: EMBL:X57084
A;Accession: S18517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eur. J. Blochem. 196, 177-184, 1991
A;Title: Molecular cloning and sequence analysis of bovine lactotransferrin.
A;Reference number: S14110; MUID:91160550; PMID:2001696
A;Accession: S14110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    R; Pierce, A. submitted to the EMBL Data
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A; Residues: 1-708 <TSA>
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A;Residues: 1-144,'V',146-163,'PP',166-339,'A',341-438,'Y',440-513,'R',515-708
A;Cross-references: EMBL:X57084; NID:g505; PIDN:CAA40366.1; PID:g506
R;Pierce, A.; Colavizza, D.; Benaissa, M.; Maes, P.; Tartar, A.; Montreuil, J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Reference number: S14674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Superfamily: transferrin; transferrin repeat homology; Keywords: duplication; Transferrin repeat homology <TRH1>
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Best Local
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8; Conserv
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61.5%;
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Pred. No.
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                                                                                                                                             C;Species: Bos primigenius taurus (cattle)
C;Date: 03-Mar-1993 #sequence_revision 03-Mar-1993 #text_change
C;Accession: A60166
R;Gilmont, R.R., Coulter, G.H.; Sylvester, S.R.; Griswold, M.D.
Biol. Reprod. 43, 139-150, 1990
Biol. Reprod. 43, 139-150, 1990
A;Title: Synthesis of transferrin and transferrin mRNA in bovine
A; Molecule type: m
A; Residues: 1-215
C; Comment: The aut
                                                                          A;Status: not compared with
                                                                                                A;Reference number: A60166; MUID:90366647; A;Accession: A60166
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bovine (fragment)

mRNA <GIL>

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translation

PMID: 2393686

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A;Molecule type: protein
A;Residues: 20-25;302-308;359-366,'X',368-376,'X',378 <SHI>
A;Residues: 20-25;302-308;359-366,'X',368-376,'X',378 <SHI>
C;Superfamily: transferrin; transferrin repeat homology
C;Keywords: duplication; glycoprotein; iron; iron binding; metalloprotein; milk
F;1-19/Domain: signal sequence #status predicted <SIG>F;20-708/Product: lactotransferrin #status experimental <MAT>
F;20-708/Product: lactotransferrin repeat homology <TRHI>
F;20-355/Domain: transferrin repeat homology <TRHI>
F;36-60/Region: antimicrobial
F;35-65/Domain: transferrin repeat homology <TRH2>
F;38-64,134-217,176-192,179-200,189-202,250-264,367-399,377-390,424-703,444-666,476-551,
F;38-55/Disulfide bonds: #status predicted
F;38-55/Disulfide bonds: #status predicted
F;39-300,387,495,564/Binding site: iron (Asp, Tyr, Tyr, His) #status experimental
F;414,452,545,614/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;414,452,545,614/Binding site: carbohydrate (Asn) (covalent) #status experimental
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F;414,452,545,614/Binding site: iron (Asp, T
F;482/Binding site: carbonate (Arg) #status
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A;Title: Separation and characterization of the C-terminal A;Reference number: A56659; MUID:93253156; PMID:8486845
A;Accession: A56659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Molecule type: protein
A; Residues: 20-27; X', 29-37, X', 39-54, X', 56-59 < REJ>
R; Bellamy, W.; Takase, M.; Yamauchi, K.; Wakabayashi, H.; Kawase, Biochim. Biophys. Acta 1121, 130-136, 1992
A; Title: Identification of the bacterioidal domain of lactoferrin
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A;Title: Purification and characterization of bovine lactoferrin A;Reference number: PL0148; MUID:90031466; PMID:2805645
A;Accession: PL0148
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A;Residues: 20-47;59-66;132-139;256-277;278,305-332;343-351;361-363;586,587-589;598-619
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A;Accession: S18518
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                                                                                                                    Similarity 9; Conserv
                                                        YEKYLGEEYVKAV 13
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69.2%;
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                                                                                                                                                      Score 51; D
Pred. No. 1;
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C; Keyworuc.
F;1-204/Domain:
                                                                                   A,Title: Differential molecular mechanism of the estrogen A;Reference number: A45401; MUID:93125571; PMID:1480183 A;Accession: A45401
                                                                                                                                                  A; Molecule type: mRNA
A; Residues: 1-148, 'T.150-422,'C', 424-711 <REY>
A; Cross-references: EMBL:X53961; NID:g34415; PIDN:CAA37914.1;
R; Teng, C.T.; Liu, Y.; Yang, N.; Walmer, D.; Panella, T.
Mol. Endocrinol. 6, 1969-1981, 1992
                                                                                                                                                                                                                                                              A;Cross-references: EMBL:U07643; NID:g467236; PIDN:AAB60324.1; PID:g46723 R;Rey, M.W.; Woloshuk, S.L.; deBoer, H.A.; Pleper, F.R. Nucleic Acids Res. 18, 5288, 1990

A;Tille: Complete nucleotide sequence of human mammary gland lactoferrin. A;Reference number: S11228; MUID:90384839; PMID:2402455

A;Accession: S11228;
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F;1-215/Domain: transferrin repeat homology #status atypical <TRH2>
                                         A; Molecule type: DNA
A; Residues: 1-15 < TEN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Reference number:
A;Accession: G01394
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N;Alternate names:
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A; Residues: 1-216 < STA>
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A;Residues: 1-711 <CHO>
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A;Reference number: G06820
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;Reywords: glycoprotein; testis
;1-204/Domain: transferrin repeat homology #status atypical <TRH2>
  Experimental source:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Species: Homo sapiens (man)
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Date: 10-Sep-1999 #sequence_revision 10-Sep-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                            Status: preliminary; translated from GB/EMBL/DDBJ
                    Cross-references: GB:S52659; NID:g263311;
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Pred. No.
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                    PIDN: AAB24877.1;
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A;Map position: 3621-3623
C;Superfamily: transferrin; transferrin repeat homology
C;Superfamily: transferrin; transferrin iron binding; milk
C;Keywords: duplication; glycoprotein; iron binding; milk
F;1-19/Domain: signal sequence #status predicted <SIG>
F;20-711/Product: lactotransferrin #status experimental <MAT>
F;21-356/Domain: transferrin repeat homology <TRH1>
F;360-99/Domain: transferrin repeat homology <TRH1>
F;360-99/Domain: transferrin repeat homology <TRH2>
F;360-99/Domai
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A;Title: Lactoferrin: similarity to diamine oxidase and A;Reference number: S74119; MUID:97054624; PMID:8898921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: protein
A; Residues: 'G', 23-24,'R', 26-27,'XX', 30-32 <HOU>
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A; Residues: 20-140, 142-169, 171-203, 'L', 205, 'K', 207-208, 'K'
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A;Residues: 436-487', A', 489-711 <RAD>
A;Residues: 436-487', A', 489-711 <RAD>
A;Cross-references: EMBL:M18642; NID:g186815; PIDN:AAA86665.1; PI
R;Panella, T.J.; Liu, Y.; Huang, A.T.; Teng, C.T.
Cancer Res. 51, 3037-3043, 1991
A;Title: Polymorphism and altered methylation of the lactoferrin
A;Reference number: A61169; MUID:91235214; PMID:1674448
A;Accession: A61169
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A; Residues: 20-28, 'X', 30-31 <ST2;
R; Rado, T.A.; Wei, X.; Benz Jr.,
Blood 70, 989-993, 1987
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A;Title: Expression of cloned human lactoferrin in baby-hamster A;Reference number: S15853; MUID:91264786; PMID:2049066
A;Accession: S15853
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Nucleic Acids Res. 18, 4013, 1990
A;Title: Nucleotide sequence of human lactoferrin cDNA.
A;Reference number: S10324; MUID:90326549; PMID:2374734
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A; Residues: 20-31 <ST1>
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Score 48; DB Pred. No. 3.3; 2; Mismatches
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A; Molecule type: mRNA
A; Residues: 1-706 < CCAR>
A; Cross-references: UNIPROT: P27425; EMBL: M69020; NID: g164242; PIDN: A
A; Experimental source: liver; developmental stage adult
R; Yoshinari, K.; Yuasa, K.; Iga, F.; Mimura, A.
Biochim. Biophys. Acta 1010, 28-34, 1989
A; Title: A growth promoting factor for human myeloid leukemia cells: A; Reference number: S02145; MUID: 89076897; PMID: 2909248
A; Accession: S02145
A; Molecule type: protein
A; Residues: 20-35, X', 37, X', 39-40, X', 43-44 < YOS>
C; Complex: monomer
                                                                                                                                                                                                                                                                                                                                                                                          N;Alternate names: growth-promoting factor
C;Species: Equus caballus (domestic horse)
C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 09-Jul-2004
C;Accession: $33761; $02145
R;Carpenter, M.A.; Broad, T.E.
Biochim. Biophys. Acta 1173, 230-232, 1993
A;Title: The cDNA sequence of horse transferrin.
A;Reference number: $33761; MUID:93277958; PMID:8504171
A;Accession: $33761
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A;Title: Purification of transferrins and lactoferrin using A;Reference number: A61573; MUID:91293379; PMID:2065820
A;Accession: A61573
A;Molecule type: protein
A;Residues: 1-8,'X',10-18,'XE' <CHU>
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A;Title: Nucleotide sequence of porcine liver transferrin.
A;Reference number: S01384; MUID:88335629; PMID:3419934
A;Accession: S01384
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C;Date: 10-Sep-1999 #sequence revision 10-Sep-1999 #text_change 09-Jul-2004
C;Aaccession: S01384; A60520; A61573
R;Baldwin, G.S.; Weinstock, J.
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A;Residues: 1-8,'X',10-11,'X',13-15 <BA2>
A;Experimental source: gastric mucosa
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A; Residues: 1-696 < BAL>
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4.8;
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A;Authors: Kaine, B.P.; Borodovsky, M.; Klenk, H.P.; Fraser, A;Title: Complete genome sequence of the methanogenic archaec A;Reference number: A64300; MUID:96337999; PMID:8688087
A;Accession: D64326
                                                                                                                                                                                                                                                                                              UDPglucose 4-epimerase (EC 5.1.3.2) - Methanococcus jannaschii
C;Species: Methanococcus jannaschii
C;Species: Methanococcus jannaschii
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 09-Jul-2004
C;Accession: D64326
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R;Bult, C.J.; White, O.; Olsen, G.J.; Zhou, L.; Fleischmann, R.D.; Sutton, G.G.; Blake, R;Bult, C.J.; Worrbeek, R.; Kirkness, E.F.; Weinstock, K.G.; Merrick, J.M.; Glodek, A.; rson, J.D.; Sadow, P.W.; Hanna, M.C.; Cotton, M.D.; Roberts, K.M.; Hurst, M.A.
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D64326
          A; Molecule type: DNA
A; Residues: 1-305 < BUL>
A; Cross-references: UNI
                                                                                                  A; Status: preliminary; nucleic acid sequence not shown; translation not
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UNIPROT:Q57664;

GB:U67477;

GB:L77117; NID:g1590949; PIDN:AAB98196.1;

archaeon,

Methanococcus jannaschii

shown

Smith, H.O.; Woese,

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N;Alternate 1
C;Species: M
C;Date: 10-S
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C;Keywords: duplication; glycoprotein; iron transport; metal binding; plasma
F;1-19/Domain: signal sequence #status predicted <SIG>
F;20-706/Product: transferrin #status experimental <MAT>
F;358-694/Domain: transferrin repeat homology <TRH2>
F;26-64,36-55,134-215,174-190,177-198,187-200,248-262,360-623,366-398,376-389,423-701,44
                                                                                                                                                                                                     A;Molecule type: DNA
A;Residues: 1-15 <IIU>
A;Residues: 1-15 <IIU>
A;Cross-references: GB:M74778
C;Superfamily: transferrin; transferrin repeat homology
C;Seywords: duplication; glycoprotein
C;Keywords: duplication; glycoprotein
F;1-19/Domain: signal sequence #status predicted <SIG>
F;1-19/Domain: signal sequence #status predicted <MAT>
F;358-695/Domain: transferrin repeat homology <TRH2>
F;358-695/Domain: transferrin repeat homology <TRH2>
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A;Accession: A41205
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J. Biol. Chem. 266, 21880-218
A;Title: Characterization of
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R;Liu, Y.; Teng, C.T.
J. Biol. Chem. 266, 21880-21885, 1991
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A; Residues: 3-707 < PEN>
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RESULT 15
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A;Map position: FOR202715-203632
A;Map position: FOR202715-203632
C;Superfamily: Escherichia coli UDPglucose 4-epimerase; UDPglucose 4-epimerase homology
C;Keywords: 1somerase
C;Keywords: 1somerase
F;2-305/Domain: UDPglucose 4-epimerase homology <UDP>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R;anonymous, Genoscope
submitted to the EMBL Data Library, July 1999
A;Description: Pyrococcus abyssi genome sequence: insights into archaeal chromosome stru
A;Reference number: A75001
A;Accession: E75153
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Search completed: November 1, 2005, 12:55:51 Job time : 14.1912 secs
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C;Superfamily: glyceraldehyde-3-phosphate dehydrogenase
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A;Molecule type: DNA
A;Residues: 1-334 <KAM>
A;Cross-references: UNIPROT:Q9V1P1; GB:AJ248284; GB:AL096836; NID:g5457730; PIDN:CAB4930
A;Experimental source: strain Orsay
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SEQUENCE FROM N.A. Rieder M.J., Carrington D.P., da Ponte S.H., Hastings N.C., Rieder M.J., Carrington D.P., da Ponte S.H., Hastings N.C., Ahearn M.O., Kuldanek S.A., Rajkumar N., Toth E.J., Yi Q., Nickerson D.A.; "SeattleSNPS. NHLBI HL66682 program for genomic applications, UW- FHCRC, Seattle, WA (URL: http://pga.gs.washington.edu)."; Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases. [6]	SEQUENCE FROM N.A.  TISSUE=Liver;  MEDLINE=92231399; PubMed=1809186;  Hershberger C.L., Larson J.L., Arnold B., Rosteck P.R. Jr.,  "A cloned gene for human transferrin.";  Ann. N. Y. Acad. Sci. 646:140-154 (1991).  [4]  [4]  SEQUENCE FROM N.A., AND VARIANT ATRANSFERRINEMIA PRO-477.  MEDLINE=20563920; PubMed=11110675;  Beutler E., Gelbart T., Lee P.L., Trevino R., Fernandez M.A.,  "Molecular Characterization of a case of atransferrinemia.";  Blood 96:4071-4074 (2000).  [5]	SEQUENCE FROM N.A., AND VARIANTS TF*B2; TF*CHI AND TF*D1.  MEDLINE=84194084; PubMed=6585026;  Yang F., Lum J.B., McGill J.R., Moore C.M., Naylor S.L., van Bragt P.H., Baldwin W.D., Bowman B.H.; "Human transferrin: cDNA characterization and chromosomal localization."; Proc. Natl. Acad. Sci. U.S.A. 81:2752-2756(1984).  [2] SEQUENCE FROM N.A. Sci. U.S.A. 81:2752-2756(1984).  [2] SEQUENCE FROM N.A., Jeltsch JM., Py MC., Levin M.J., Chambon P., Cohen G.N., Zakin M.M.; "Complete structure of the human transferrin gene. Comparison with analogous chicken gene and human pseudogene."; Gene 56:109-116(1987).  [3]	1 6

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RA Strausberg R.L., Felmpold E.A., Grouse L.H., Derge J.G.,

RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Stapleton M.J., Usdin T.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

RA Stapleton M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Stapleton M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Robestelm M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Robestelm M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

RA Robestelm M.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

RA Robestelm M.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

RA Richards S., Morley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Richards S., Worley K.C., Hale S., Garcia A.R., Gubbs R.A.,

RA Richards S., Worley K.C., Hale S., Garcia A.R., Gubbs R.A.,

RA Robestelm M.J., Woung A.C., Shevchenko Y., Gubbs R.A.,

RA Robestelm M.J., Schein J.S., Jones S.J., Myers R.M.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,

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                       which match the control elements regulated by heavy glucocorticoids and acute phase reaction."; Gene 49:167-175(1986).
                                                                                                                                MEDLINE=87192006;
Adrian G.S., Koriı
                                                                                                                                                                                                                                                        "The 5' region of the human
                                                                                                                                                                                                                                                                                            MEDLINE=87066744; PubMed=3786138; Lucero M.A., Schaeffer E., Cohen
                                                                                                                                                                                                                                                                                                                                         SEQUENCE OF 1-14
                                                                                                                                                                                                                                                                                                                                                                                    "Organization of the human transferrin originated by gene duplication."; Proc. Natl. Acad. Sci. U.S.A. 82:3149-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    seven cyanogen
structure.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Lineback-Zins J., Brew K., "The primary structure of seven cyanogen bromide fra
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                                                                                                                            2006; PubMed=3106157; DOI=10.1016/0378-1119(86)90277-5; Korinek B.W., Bowman B.H., Yang F.;
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SEQUENCE
Tsuchida
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"Human transferrin (Tf): a single
Cl or Tf C2 variant.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOI=10.1002/1097-4547(20000815)61:4<388::AID-JNR5>3.0.CO;2-(de Arriba Zerpa G.A., Saleh M.-C., Fernandez P.M., Guillou I Espinosa de los Monteros A., de Vellis J., Zakin M.M., Baron "Alternative splicing prevents transferrin secretion during differentiation of a human oligodendrocyte cell line."; J. Neurosci. Res. 61:388-395(2000).
         X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS) OF 23-352.
MEDLINE=99155227, PubMed=10029548; DOI=10.1021/b19824543;
BEWLEY M.C., Tam B.M., Grewal J., He S., Shewry S., Murph
                                                                                                    X-RAY CRYSTALLOGRAPHY (2.2 ANGSTROMS) OF 22-350.
MEDLINE=9843439; Pubmed=9760232; DOI=10.1021/bi9812064;
Jeffrey P. D., Bewley M.C., Macgillivray R.T.A., Mason A.I
Woodworth R.C., Baker E.N.;
"Ligand-induced conformational change in transferring: c:
                                                                                                                                                                                                        Woodworth R.C., Brayer G.D., Baker E.N.; "Two high-resolution crystal structures of the human transferrin reveal a structural change in
                                                                                                                                                                                                                                  X-RAY CRYSTALLOGRAPHY (1.6 ANGSTROMS) OF 22-350, MEDLLINE=98272665; PubMed=9609685; DOI=10.1021/bi980355j; Macgillivray R.T.A., Moore S.A., Chen J., Anderson B.F., Luo Y., Bawley M.C., Smith C.A., Murphy M.E.P., Wang Y., Woodworth R.C., Brayer G.D., Baker E.N.;
                                                                                                                                                                                                                                                                                                                           MEDLINE=92031536; PubMed=1932003; Woodworth R.C., Mason A.B., Funk W.D., Mc "Expression and initial characterization of the N-terminal half-molecule of human
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McGillivray R.T.A., Men
Lineback-Zins J., Brew
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Ershova E.S., Egorov T.A.,
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                                                                             structure of 1
transferrin."
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                                                                                                                                                                                                                                                                                                                                                                                                      no acid sequence of human serum transferrin.";
Sci. U.S.A. 79:2504-2508(1982).
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          Sarra R., Garratt R.C., Gorinsky B., Jhoti H., Lindley P.F.; "High-resolution X-ray studies on rabbit serum transferrin: preliminary structure analysis of the N-terminal half-molecule A resolution.";

Acta Crystallogr. B 46:763-771(1990).
                                                                                                MEDIINE-89026775; PubMed-3179277; Bailey S., Evans R.W., Garratt R.C., Gorinsky B., Hasnain S., Hostburgh C., Jhoti H., Lindley P.F., Mydin A., Sarra R., Watson J.L.; "Molecular structure of serum transferrin at 3.3-A resolution."; Biochemistry 27:5804-5812(1988).
                                                                                                                                                                                         Evans R.W., Aitken A., Patel K.J.; "Evidence for a single glycan moiety in rabbit location of the glycan within the polypeptide c FEBS Lett. 238:39-42(1988).
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                                                                              X-RAY
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STRAIN-New Zealand white;
Ghareeb B.A.A., Thepot D.,
Houdebine L.M.;
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Woodworth R.C., Macgillivray R.T.A.;
"The nucleotide sequence of rabbit liver transferrin cDNA.";
Biochim. Biophys. Acta 1089:262-265(1991).
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eut
Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus
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                                                                                                                                                                                                                                          MEDLINE=89005676; PubMed=3169252; DOI=10.1016/0014-5793(88)80221-7;
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nsferrins are iron binding
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W.D., Robertson K.A., Umelas T.M.
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ing transport proteins which association with the binding
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Pfam; PF00405; Transferrin; 2.
PRINTS; PR00422; TRANSFERRIN.
SMART; SM00094; TR FER; 2.
PROSITE; PS00205; TRANSFERRIN 1; 1.
PROSITE; PS00206; TRANSFERRIN 2; 2.
PROSITE; PS00207; TRANSFERRIN 3; 2.
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SUBCRILIULAR LOCATION: Secreted.
TISSUE SPECIFICITY: Expressed by the liver and DOMAIN: Composed of two homologous domains.
DOMAIN: Composed of two the transferrin family.
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AF031614; AAB94136.1;
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Submitted (MAY-2003) to the EMBL/GenBank/DDBU databases.
--- FUNCTION: Transferrins are iron binding transport pro-
bind ferric iron in association with the binding of
usually bicarbonate (By similarity).
---- SIMILARITY: Belongs to the transferrin family.
EMBL; AP006435; BAD08658.1; ---
HSSP, QBTCD2; 1BDL.
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SMART; SM00094; TR FER; 1.

PROSITE; PS00205; TRANSFERRIN 1; 1.

PROSITE; PS00206; TRANSFERRIN 2; 1.

PROSITE; PS00207; TRANSFERRIN 3; 1.

Iron transport; Metal-binding; Transport.
TISSUE-Liver;
Rinaudo J.A.S., Gerin J.L.;
Submitted (APR-2003) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: Transferrins are iron binding transport pr
bind ferric iron in association with the binding of
usually bicarbonate (By similarity).
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GO; GO:0008199; F:ferric iron binding; IEA
GO; GO:0006879; P:iron ion homeostasis; IE
GO; GO:0006826; P:iron ion transport; IEA.
GO; GO:0006810; P:transport; IEA.
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Mammalia; Eutheria;
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-|- SIMILARITY: Belongs to the transferrin fa
EMBL, AY288100; AAP37129.1; -.
HSSP; P19134; LUNF.
GO; GO:0005576; C:extracellular; IEA.
GO; GO:0006879; F:ferric iron binding; IEA.
GO; GO:00068199; F:ferric iron binding; IEA.
GO; GO:0006819; F:iron ion homeostasis; IEA.
GO; GO:0006810; P:transport; IEA.
GO; GO:0006810; P:transport; IEA.
InterPro; IPR001156; Peptidase_S60.
Pfam; P900405; Transferrin; 2.
PROSITE; PS00205; TRANSFERRIN 1; 2.
PROSITE; PS00205; TRANSFERRIN 2; 2.
PROSITE; PS00205; TRANSFERRIN 3; 2.
PROSITE; PS00206; TRANSFERRIN 3; 2.
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Eukaryota; Metazoa; C
Mammalia; Eutheria; C
NCBI_TaxID=9823;
This SWISS-PROT entry is copyright. It is produced through a collaboratic between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on it use by non-profit institutions as long are in the second control of the
                                                                                                                                                                                                                                                      MEDLINE-90105338; PubMed-2605266;
Hutchens T.W., Magnuson J.S., Yip T.-T.;
"Rapid purification of porcine colostral whey lactoferrin by affinity chromatography on single-stranded DNA-agarose. Characterization, amino acid composition and N-terminal amino acid sequence.";
Blochim. Blophys. Acta 999:323-329(1989).
-I- FUNCTION: Transferrins are iron binding transport proteins which can bind two atoms of ferric iron in association with the binding of an anion, usually bicarbonate.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Lyndon J.P., O'Malley B.R., Saucedo O., Lee Conneely O.M.;
"Nucleotide and primary amino acid sequence Biochim. Biophys. Acta 1132:97-99(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
MEDLINE-92379101; PubMed=1511016; DOI=10.1016/0167-4781(92)90061-4;
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MEDLINE=92367939; PubMed=1503259;

Alexander L.J., Levine W.B., Teng

"Cloning and sequencing of the po

Anim. Genet. 23:251-256(1992).
                                                                                                                                      DOMAIN: Composed of two homologous domains.
SIMILARITY: Belongs to the transferrin family.
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40053F7DC1CFCA87 CRC64;
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porcine lactoferrin cDNA.";
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PROSITE; PS00205; TRANSFERRIN 1; 2.

PROSITE; PS00206; TRANSFERRIN 2; 2.

PROSITE; PS00207; TRANSFERRIN 3; 1.

Direct protein sequencing; Glycoprotein;
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D -> G (in Ref. 2).

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E -> S (in Ref. 1).

E -> Q (in Ref. 1).

D -> N (in Ref. 1).

V -> M (in Ref. 1).

V -> C (in Ref. 1).

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HSSP; P24627; 1NKX.
GO; GO:0005576; C:extracellular; IEA,
GO; GO:0005199; F:ferric iron binding; IEA,
GO; GO:0006879; P:iron ion homeostasis; IEA,
GO; GO:0006879; P:iron ion transport; IEA,
GO; GO:0006810; P:transport; IEA,
CO; GO:0006810; Transferrin; 2.
                                                                                                                                                                                                                                                             Q6YT39
Q6YT39;
Q6YT39;
05-JUL-2004 (TrEMBLrel. 2
05-JUL-2004 (TrEMBLrel. 2
05-JUL-2004 (TrEMBLrel. 2
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Q8WMN8;
01-MAR-2002
01-MAR-2002
              SEQUENCE
Shinkai H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=9823;
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SMART; SM00094; TR FER; 2.
PROSITE; PS00205; TRANSFERRIN 2; 2.
PROSITE; PS00206; TRANSFERRIN 2; 2.
PROSITE; PS00207; TRANSFERRIN 3; 1.
                                                                                                                                                                               Sus scrofa (Pig)
                                                                                                                                                                                                                Name=LTF;
                                                                                                                                                                                                                                           Lactotransferrin.
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Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sus scrofa (Pig)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             672
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           FROM N.A.
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Cetartiodactyla;
        Η.
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76.9%;
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27,
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Pred. No. 2.1;
1; Mismatches
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1; Mismatches
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                                                                                                                                                     Craniata; Vertebrata;
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annotation update)
              Muneta
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2.1;
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              Awata
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                                                                                                                                                     Euteleostomi;
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              Uenishi
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RESULT 8
Q7YS20
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A Pecorini C., Fogher C., Baldi A.;
A Pecorini C., Fogher C., Baldi A.;
L Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.
L Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.
C -!- FUNCTION. Transferrins are iron binding transport prote bind ferric iron in association with the binding of an usually bicarbonate (By similarity).
C -!- SUBMINITY: Belongs to the transferrin family.
EMBL; AY306198; AAP70487.1; -.
EMBL; AY306198; Fiferric iron binding; IEA.
GO; GO:0006879; F:ferric iron binding; IEA.
GO; GO:0006879; F:tron ion transport; IEA.
GO; GO:0006879; F:transport; IEA.
DR GO; GO:0006810; F:transport; IEA.
DR GO; GO:0006810; F:transport; IEA.
DR GO; GO:0006810; F:transport; IEA.
DR Ffam; PE00405; Transferrin; 2.

DR Ffam; PE00405; Transferrin; 2.
Query Match
Best Local S
Matches 10
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Best Local
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Q7YS20;
01-OCT-2003
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SMART; SM00094; TR FER; 2.
PROSITE; PS00205; TRANSFERRIN 1; 2.
PROSITE; PS00206; TRANSFERRIN 2; 2.
PROSITE; PS00207; TRANSFERRIN 3; 1.
TROS. TRANSFERRIN 3; 1.
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GO; GO:0008199; F:ferric iron binding; IEA.
GO; GO:0006879; P:iron ion homeostasis; IEA.
GO; GO:0006826; P:iron ion transport; IEA.
GO; GO:0006810; P:transport; IEA.
                                                                                           SMART; SM00094; TR FER; 2.
PROSITE; PS00205; TRANSFERRIN_2; 1.
PROSITE; PS00206; TRANSFERRIN_3; 1.
PROSITE; PS00207; TRANSFERRIN_3; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-OCT-2003
01-MAR-2004
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-i- DOMAIN: Composed of two homologous domains (By similarity: Belongs to the transferrin family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (JAN-2003) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=9823;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sus scrofa (Pig).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Lactoferrin.
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Pfam; PF00405; Transferrin; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    transport; Metal-binding; ENCE 704 AA; 77611 MW;
                                                               transport;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               672
   l Similarity
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10; Conserv
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                                                               ð,
                                                               Metal-binding;
AA; 77522 MW;
              82.48;
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76.9%;
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Last annotation updat
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Pred. No. 2.1;
1; Mismatches
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 Score 56; DB 2;
Pred. No. 2.1;
1; Mismatches
                                                            Transport.
AAC8E1767E56BF6A CRC64;
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10DFEA3C1366D5DA CRC64;
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                              Length 704;
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Sus.
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YEKYLGSEYVTAI 684 YEKYLGEEYVKAV

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RESULT 9
TRFL_CAPHI
                                                                                                                                                          EMBL; U53857; AAA97958.1; -.
EMBL; X78902; CAA55517.1; -.
PDB; IJW1; X-ray; A=20-708.
InterPro; IPRO01156; Peptidase_S60.
Pfam; PF00405; Transferrin; 2.
PRINTS; PR00422; TRANSFERRIN.
SMART; SM00094; TR PER; 2.
PROSITE; PS00206; TRANSFERRIN_3; 2.
PROSITE; PS00206; TRANSFERRIN_3; 2.
PROSITE; PS00207; TRANSFERRIN_3; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SIGNAL; TI SIGNAL; CHAIN CHAIN REPEAT REPEAT DISULFID DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE-Mammary gland;

MEDLINE-94380047; Pubmed-8093048;

le Provost F., Nocart M., Guerin G., Martin P.;

"Characterization of the goat lactoferrin cDNA. Assignment of trelevant locus to bovine U12 synteny group.";

Biochem. Biophys. Res. Commun. 203:1324-1332(1994).

-I-FUNCTION: Transferrins are iron binding transport proteins can bind two atoms of ferric iron in association with the boff an anion, usually bicarbonate.

-I-SUBCELLULAR LOCATION: Secreted.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   uwaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalla; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae; Caprinee; Capra. NCBI_TaxID=9975.
                                                                                                                                                                                                                                                                                     the European Bioinformatics Institute. The use by non-profit institutions as modulified and this statement is not removed. entitles requires a license agreement (See lor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a copyright. It is produced through a copyright.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE-Mammary gland;
Lee T., Yu S., Kim S., I
Submitted (APR-1996) to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               rinae; Capra.
[_TaxID=9925;
                                                                                                                                                                                                                                                                                                                                                                                SIMILARITY: Belongs to the transferrin family.
                                                                                                                                                                                                                                                                                                                                                                                           DOMAIN: Composed of two homologous domains
 7 Transport.
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71D 364
71D 38
71D 134
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71D 176
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71D 377
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   Lee K.,
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  By similarity.
Lactotransferrin.
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(See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                      There are no restrictions ig as its content is in
                                                                                                                                                                                                                                                                                                                                                                                                                                         the binding
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Pierce A., Colavizza D., Benaissa M., Maes P., Tartar A.,
Pierce A., Spik G.;
Montreuil J., Spik G.;
Montreuil J., Spik G.;
"Molecular cloning and sequence analysis of bovine lactotransferrin.'
Eur. J. Biochem. 196:177-184(1991).
-!- FUNCTION: Transferrins are iron binding transport proteins which bind ferric iron in association with the binding of an anion, usually bicarbonate (By similarity).
-!- SIMILARITY: Belongs to the transferrin family.
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Mammalia; Eutheria;
                                                                                  SEQUENCE FROM N.A.
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PRINTS; PR00427; TRANSFERRIN
SMART; SM00094; TR_FER; 2.
PROSITE; PS00205; TRANSFERRIN 1; 2.
PROSITE; PS00206; TRANSFERRIN 2; 2.
PROSITE; PS00207; TRANSFERRIN 3; 2.
Iron transport; Metal-binding; Transport; Metal-binding;
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GG; GG:000819; F:ferric iron binding;
GG; GG:0006879; P:fron ion homeostasis;
GG; GG:0006826; P:fron ion transport; II
GG; GG:0006810; P:fron ion transport; II
InterPro; IPR001156; Peptidase S60.
Pfam, PF00405; Transferrin; 1.
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Bovinae; Bos.
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GO:0008199; F:ferric iron binding; IEA.
GO:0006879; P:iron ion homeostasis; IEA.
GO:0006876; P:iron ion transport; IEA.
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SIMILARITY:
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Leger D., Wieruszeski J.M., Spik G., Pambla
"Rat mammary-gland transferrin: nucleotide
analysis and glycan structure.";
Biochem. J. 307:47-55(1995).
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                                                                                                   MEDLINE=80049855; PubMed=500689; Schreiber G., Dryburgh H., Millershi Phillips J., Edwards K., Maggs J.; "The synthesis and secretion of rat J. Biol. Chem. 254:12013-12019(1979)
                                                                                                                                                                                                                                                                               "Synthesis of rat transferrin in Escherichia coli
recombinant bacteriophage.";
Biochem. Biophys. Res. Commun. 122:960-965(1984).
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STRAIN=Wistar; TISSUE=Mammary gland;
MEDLINE=95234054; PubMed=7717992;
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Mammalia; Eutheria; Rodentia;
SEQUENCE
                       Biochim.
                                                         Purves L.R.,
                                                                    PubMed=3046665;
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                                                                                                                                                                                                                    Griswold M.D.;
                                                                                                                                                                                                                               MEDLINE=87053639; PubMed
Huggenvik J.I., Idzerda
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Aldred A.R., Howlett G.J., Schrei
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                                                       Johnson G., Jacobs
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; Murinae; Rat
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HSSP; P19134; ...
GlycosuiteDB; P12346; -.
InterPro: IPR001156; Peptidase_S60.
InterPro: IPR001156; Peptidase_S60.
Pfam; PF00405; Transferrin; 2.
PRINTS; PR00422; TRANSFERRIN.
SMART; SM00094; TR FER; 2.
PROSITE; PS00205; TRANSFERRIN_1; 1.
PROSITE; PS00206; TRANSFERRIN_2; 2.
PROSITE; PS00207; TRANSFERRIN_3; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; X77158; CAA54403.1; -.
EMBL; D38380; BAA07458.1; -.
EMBL; M26113; AAA42266.1; -.
EMBL; M27966; AAA42267.1; -.
PIR; S49163; S49163.
HSSP; P19134; ITPD.
GlycosuiteDB; P12346; -.
 REPEAT DISULFID DISUL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                   REPEAT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IsoId=P12346-2; Sequence=VSP 011840; TISSUE SPECIFICITY: Expressed by the liver and DOMAIN: Composed of two homologous domains. SIMILARITY: Belongs to the transferrin family.
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 Sequence=Displayed;
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RP ASD C.S., Li W.Q., Li Y.C., Han H.P., Wang G.P., Chai L.Q., Yuan J.Y.,
RA Yang K.J., Yan H.M., Chang C.F., Zhao L.F., Ma H., Wang L., Wang S.F.,
RA Shi J.B., Rahman S., Wang Q.N., Zhang J.B.;
RL Submitted (JUN-2003) to the EMBL/GenBank/DDBJ databases.
C. -! FUNCTION: Transferrins are iron binding transport proteins which
CC bind ferric iron in association with the binding of an anion,
CC -! DOMAIN: Composed of two homologous domains (By similarity).
CC -! DOMAIN: Composed of two homologous domains (By similarity).
CC -! DOMAIN: Composed of two homologous domains (By similarity).
CC -! DOMAIN: Composed of two homologous formains (By similarity).
CC -! SUMILARITY: Belongs to the transferrin family.
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CC -! SUMILARITY: Belongs to the transferrin family.
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CC -! SUMILARITY: Belongs to the transferrin family.
CC -! SUMILARITY: Belongs to two homologous domains (By similarity).
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CC -! SUMILARITY: Belongs to the composition family.
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Q7TNXO;
01-OCT-2003 (TrEMBLrel. 2
01-OCT-2003 (TrEMBLrel. 2
01-MAR-2004 (TrEMBLrel. 2
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Mammalia; Eutheria;
NCBI_TaxID=10116;
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A -> P (in Ref. 1).
P -> R (in Ref. 1).
AFGCYGVPPRMDYRLYLGHSYVTAIRNQRBGVCPEAS -:
RFGLLRAPKDGLQAVPRPQLCHCHSKSAGSCPDA (in
Ref. 1).
S -> G (in Ref. 1).
S -> D (in Ref. 4).
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Sciurognathi;
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Pfam; PF00405; Transferrin; 2.
PRINTS; PR00425; TRANSFERRIN.
SMART; SM00094; TR_FER; 2.
PROSITE; PS00205; TRANSFERRIN 1; 2.
PROSITE; PS00205; TRANSFERRIN 2; 1.
PROSITE; PS00207; TRANSFERRIN_2; 1.
PROSITE; PS00207; TRANSFERRIN_3; 2.
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Iron transport; Me
SEQUENCE 698 AA;
                                       Direct
SIGNAL
                                                                                                                                                                                                      the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed. entitles requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sus scrofa (Pig).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
                                                                                                                                                      EMBL; U36916; AAB58956.1; -. PIR; I47228; I47228. HSSP; P09571; 1H76.
                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                "Purification and characterization inhibitor from porcine plasma."; Biochemiatry 3:12536-12542(1992).
-I- FUNCTION: Specifically binds ar
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Roush E.D., Fierke C.A.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Biochemistry
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Wuebbens M.W., Roush E.D., Decastro C.M., Fierke C.A.;
"Cloning, sequencing, and recombinant expression of the porcine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A., AND PARTIAL SEQUENCE MEDLINE=97254619; Pubmed=9100029; DOI=10
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sequencing; Glycoprotein; Repeat; Signal.

1 19 Potential.
0 704 Inhibitor of carbonic anhyd
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Metal-binding; T1
AA; 76395 MW; BS
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Last annotation update)
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B91ABB41CA447194 CRC64;
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TL_BOVIN STANDARD;
TRFL BOVIN STANDARD;
P24677; 029629; 09MZY3;
01-MAR-1992 (Rel. 27, Last s)
01-OCT-1993 (Rel. 27, Last s)
25-OCT-2004 (Rel. 45, Last s)
MEDLINE=94266164; PubMed=8206385; DOI=10.1016/0378-1119(94)90108-2; Seyfert H.-M., Tuckoricz A., Interthal H., Koczan D., Hobom G.; "Structure of the bovine lactoferrin-encoding gene and its promote Gene 143:265-269(1994).
                                                                                                                                                                                                                                                                                                           Mammalia; Eutheri
Bovinae; Bos.
NCBI_TaxID=9913;
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MEDLINE=92028986; PubMed=1718281;
Goodman R.E., Schanbacher F.L.;
                                                                                   Tsang T.C., Burns D.K., Wang "Cloning of a 80-kD advanced protein from bovine lung."; FASEB J. 6:233-233(1991).
                                                                                                                                                                                                                               Pierce A., Colavizza D., Benaissa M., Mae
Montreuil J., Spik G.,
"Molecular cloning and sequence analysis
Eur. J. Biochem. 196:177-184(1991).
                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
TISSUE=Submaxillary gland;
MEDLINE=91160550; PubMed=2
                                                                                                                                                                                                                                                                                                                                             Bos taurus (Bovine).
Eukaryota; Metazoa;
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                                                                                                      F., Pan Y.C.E., Schmidt A.M., glycosylation end product (AG
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sequencing; Glycoprotein;

Transport

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MEDLINE-98190007, PubMed-9521752; DOI=10.1021/bi972323m;
A Hwang P.M., Zhou N., Shan X., Arrowsmith C.H., Vogel H.J.;
"Three-olimensional solution structure of lactoferricin B, an antimicrobial peptide derived from bovine lactoferrin.";
Eliochemistry 37:4288-4298(1998).
C -!- FUNCTION: Transferrins are iron binding transport protein can bind two atoms of ferric iron in association with the off an anion, usually bicarbonate.
-!- FUNCTION: Lactotransferrin has antimicrobial activity. The effective inhibitory activity was seen against E.coli and P.aeruginosa.
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Nakamura I., Shimazaki K., Y.

Submitted (JUL-2000) to **- '
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Hoek K.S., Milne J.M., Gr
"Antibacterial activity i Antimicrob. Agents Chemotial"
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or send a
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MEDLINE=90031466; PubMed=2805645;

Rejman J.J., Hegarty H.M., Hurley W.L.;

"Purification and characterization of bovine
secretions of the involuting mammary gland: i
molecular weight forms.";

Comp. Biochem. Physiol. 93B:929-934(1989).

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J. Mol. Bic
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MEDLINE=98062367; PubMed=9398529; DDG=10.1006/jmbi.1997.1386;
MOORE S.A., Anderson B.F., Groom C.R., Haridas M., Baker E.N.;
"Three-dimensional structure of diferric bovine lactoferrin at 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PubMed=14650542;
Kutila T., Pyorala
"Antibacterial eff
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P. aeruginosa.

PUNCTION: Lactoferricin B is an antimicrobial public prowth of Gram-negative and Gram-positive k SUBUNIT: Monomer.

SUBCELLULAR LOCATION: Secreted.

DOMAIN: Composed of two homologous domains.

SIMILARITY: Belongs to the transferrin family.
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                                                                                                                                                                                                                                                                                                                                                                                              SWISS-PROT entry is copyright. It is produced through a collabe en the Swiss Institute of Bioinformatics and the EMBL outst European Bioinformatics Institute. There are no restrictions by non-profit institutions as long as its content is in fied and this statement is not removed. Usage by and for comtise requires a license agreement (See http://www.isb-sib.ch/anend an email to license@isb-sib.ch).
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### SUMMARIES

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	ADE78509	AAU76455	ADJ84701	ADL34409	ADL34431	АВJ37967	ABJ37970	ABJ37953	AAR53310	AAB14923	AAY04647	AAY04623	AAB14919	ABG69449	ABG69560	ADS13240	ADR15914	AAY41864	AAY41865	ABP99131	ADS13391	ADR15928	ADR15983	AAY24760	ADG46078	ID
	Ade78509 Peptide 1	G	Adj84701 CTL epito	Ad134409 МНС/НLA р	Adl34431 MHC/HLA p	Human	Abj37970 Human cyt	-	Aar53310 Anti-aggr			Aay04623 Factor VI	Aab14919 Random 27	Abg69449 Vascular	Abg69560 Human CRP	Ads13240 Human rhe	Adr15914 Transferr	Aay41864 Rheumatoi	Aay41865 Rheumatoi	Abp99131 Erb82 cel	Ads13391 Human rhe	Adr15928 Transferr	Adr15983 Transferr	Aay24760 Lactoferr	8 Human C	Description

This invention describes a novel antibody that, in aqueous solution, binds selectively to carbohydrate-deficient transferrin (CDT) without having to bind CDT to a solid phase. The invention also describes an antibody that binds selectively to CDT at regions containing the sequences VVARSMGGKEDLIWELL, TTEDSIAKIMNGEADAMSLDGGF, SKLSMGSGLNLSEPN and YEKYLGEEYVKAV (ADG46075-ADG46078) and an immunoassay for detecting CDT using the antibodies of the invention. The antibodies of the invention are monoclonal, specifically from hybridomas DSM ACC2540 or 2541. The antibodies are obtained by immunisation with non-glycosylated transferrin, or a fragment, then generation of hybridomas by standard fusion of spleen and myeloma cells. Hybridomas are then selected for production of antibodies that specifically bind CDT from the aqueous phase. The antibodies are useful for diagnosis of alcoholism, CDT, which

28 41.2 10 7 AAO27549 28 41.2 10 8 ADH11172 28 41.2 11 7 AD234403 28 41.2 12 2 AAY24759 28 41.2 12 7 ABU65580 28 41.2 12 7 ABU65580 28 41.2 13 2 AAW70384 27 39.7 10 2 AAW15482 27 39.7 10 3 AAY61204 27 39.7 10 6 ABR24719 27 39.7 11 2 AAR62964 27 39.7 11 2 AAW61204 27 39.7 11 2 AAR62964 27 39.7 11 2 AAR62964 27 39.7 11 2 AAR62964 27 39.7 12 AAW16486 27 39.7 12 AAW16486 28 38.2 8 7 AD621199 26 38.2 8 7 AD6217581 26 38.2 9 7 AD623770	41.2 10 8 41.2 11 7 41.2 11 7 39.7 10 6 39.7 10 6 39.7 11 2 39.7 11 2 39.7 11 2 39.7 11 2 39.7 12 3 39.7 12 3 39.7 12 3 39.7 13 2 39.7 14 2 39.7 15 2 39.7 16 6 39.7 17 18 2 39.7 18 2 39.7 19 2 39.7 19 3 39.7 19	45	44	43	42	41	40	39	38	37	36	35	ω 4	33	32	31	30	29	28	27	0.7
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AA027549 AA027549 AA0111172 AA012403 AA124759 AA124759 AA12463580 AAW163580 AAW16462 AAW16464 AAW16466		7	N	7	7	7	w	N	N	σ	σ	w	N	σ	N	7	N	7	œ	7	,
	Aac27749 Aad1141172 Ad1141172 Ad114173 Ad24753 Aay24753 Abu65580 Abu65580 Abw70384 Abr24644 Abr25788 Abr25798 Aaw16466 Aaw16466 Aaw164601189 Aac27599 Aac27599 Aac27599 Aac27599 Aac27599 Aac27599 Aac27599 Aac27599	ADK23770	AAW45238	AAO27581	AAO27599	ADE01189	AAY53072	AAW16466	AAR62964	ABR24719	ABR25758	AAY61204	AAW15482	ABR24644	AAW70384	ABU63580	AAY24759	ADL34403	ADH11172	AAO27549	25067077

# ALIGNMENTS

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                                                                                                                                          The present invention describes hybridoma cell lines having the following accession numbers: (a) ATCC CRL-12431 (II), (b) ATCC CRL 12477 (III), and (c) ATCC CRL 12472 (III), producing monoclonal forms of human natural IgM antibodies. These are useful for treating HIV-1 infected individuals. Methods from the present invention can be used treating, or increasing CD4+T cells, in a patient suffering from an infection caused by HIV-1, by administering the human IgM monoclonal antibodies produced by (III) and (III) cells individually or together. The antibodies can be used as positive controls in assays for prognosing the onset of AIDS. The present sequence represents a lactoferrin peptide from an example of the present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          lacks glycosylation at Asn413 and/or Asn 611, is present only in alcoholics. The antibodies allow direct detection of CDT in solution, eliminating the need for immobilising it on a solid phase (as required when using known antibodies). ADG46075-ADG46094 represent CDT peptide fragments used in the method of the invention.
                                                                                                       Sequence 12
                                                                                                                                                                                                                                                                                         Example 2; Page 15; 52pp; English.
                                                                                                                                                                                                                                                                                                                                New hybridoma cell lines producing
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Assay for differentiating protein isoforms to determine their concentrations in sample e.g. blood, involves contacting the sample with proteclytic enzyme to produce peptide fragment by proteolysis followed by
                                                       04-NOV-2004
                                                                                     ADR15928;
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                                                                                                                 ADR15928 standard; peptide; 8
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100.0%;
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glycosylation; proteolytic enzyme; proteolysis; detection; transferrin.

Transferrin peptide fragment

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                                                     14-MAR-2003; 2003US-0455037P
                                                                                                                                                                                                                                WO2004082617-A2
                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                               rheumatoid arthritis;
                                                                                                                                                                                                                                                                                                                                                                                                  Human rheumatoid arthritis marker peptide -
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     (SURR-) SURROMED INC
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RESULT 6
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Matches 8
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                                            Diagnosing and treating ErbB2-related cancer, comprises generati
Overexpression Features (EOFs) from test samples from a subject
electrophoresis, and comparing the EOFs in the sample with a
Claim 3; Page 22; 106pp; English.
                                                                                                                                                                                                03-MAY-2001;
23-NOV-2001;
                                                                                                                                                                                                                                                                                                                                                                   gene
                                                                                                                                                                                                                                                                                                                                                                                ErbB2; cancer; oncogene; ErbB2 overexpression-associated protein isoform;
EOPI; EOF; ErbB2 overexpression feature; cytostatic; vaccine;
                              predetermined
                                                                                                       WPI; 2003-103531/09.
                                                                                                                                     Herath HMAC,
                                                                                                                                                                                                                                             02-MAY-2002; 2002WO-GB002047
                                                                                                                                                                                                                                                                                                        WO200290991-A2
                                                                                                                                                                                                                                                                                                                                     Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                               ErbB2 cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABP99131;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABP99131 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 8 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 1; SEQ ID NO 182; 184pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New isolated marker for rheumatoid arthritis, useful in preparing composition for diagnosing or treating rheumatoid arthritis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2004-690929/67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Kantor AB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4 YLGEEYVK 11
                                                                                                                                                                    OXFORD GLYCOSCIENCES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
8; Conservat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     YLGEEYVK 8
                                                                                                                                                                                                                                                                                                                                                                                                                            overexpression
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                                                                                                                                                                                                2001GB-00010886
2001GB-00028183
                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                               reference
                                                                                                                                     Page MJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           63.2%;
                              range.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Schulman
                                                                                                                                                                                                                                                                                                                                                                                                                              EOPI-120 peptide SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 43;
Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                    CIT D
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                                                                          ErbB2
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RESULT 7
AAY41865
ID AAY4
XX AAY4
XX AAY4
XX AAY4
XX O9-D
XX Huma
XW rheu
XX Huma
XW rheu
XW rheu
XW rheu
XW WO99
XX WO99
XX 15-N
XX I OXE
PF 13-N
XX WPI;
XX WPI;
XX WPI;
XX OXE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present invention describes a method for screening or diagnosing CC ExbB2-related cancer. The method comprises generating ErbB2 CC overexpression features (EOFs) from test samples of body fluid from the ExbB2-related cancer. The method comprises generating ErbB2 CC subject by electrophoresis, and comparing the EOFs in the test sample CC (EMEN) in the test sample. Also described: (1) an antibody capable of immunospecific binding to an ErbB2 overexpression protein isoform (EOFI), CC (2) pharmaceutical compositions comprising an EOFI, a nucleic acid CC encoding an EOFI, an amount of the above antibody or its fragment, and a CC carrier; (3) a kit comprising one or more antibodies and/or EOFI sited CC above, other reagents and instructions for use; (4) methods of treating CC or preventing ErbB2-related cancer; (5) methods of screening for or CC identifying agents that interact with or modulate the expression or CC activity of, one or more EOFIs, EOFI fragment, EOFI-related polypeptides, or more of the ErbB2 EOFIs, comprising administering to a subject an agent identified by the method of (5); and (7) a method for identifying CC critostatic activity and can be used in vaccines and gene therapy. The CC critostatic activity and can be used in vaccines and gene therapy. The CC critostatic activity and can be used in vaccines and gene therapy. The CC critostatic activity and can be used in vaccines and gene therapy. The CC critostatic activity and can be used in vaccines and gene therapy. The CC critostatic activity and can be used in vaccines and gene therapy. The ETBE2-related cancer, identifying a subject at risk of developing ErbB2-related cancer, and for drug screening or drug development. The kit is cuseful in carrying out the above methods. ABP9940 to ABP99206 represent XX
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Matches
                                      electrophoresis.
                                                                  Diagnosis of human rheumatoid arthritis by two-dimensional
                                                                                                                                        WPI; 1999-571871/48
                                                                                                                                                                                                                                                                                                                                       13-MAR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                          15-MAR-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; rheumatoid arthritis; RA; diagnosis; RPI; RADF; detection; rheumatoid arthritis diagnostic feature; ERPI; synovial fluid; rheumatoid arthritis diagnostic protein isoform; screening; expression reference protein isoform; prognosis.
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                                                                                                                                                                                                                                                                         (OXFO-) OXFORD GLYCOSCIENCES UK LTD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
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54.5%;
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Pred. No. 3.7;
4; Mismatches
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feature whose relative abundance correlates with the presence or absence of RA; and (c) comparing the abundance of each chosen feature in the sample with the abundance of that chosen feature in the relative with the abundance of that chosen feature in the sample without RA, where the relative abundance of the chosen feature or features in the sample indicates the presence or absence of RA in the subject. The method can also be used in clinical studies for testing drugs for therapy of RA, for purification of RA diagnostic protein isoforms (RPIs), and for production of antibodies to RPIs. The RA-diagnostic feature (RADF) proteins can be used to identify compounds that promote or inhibit their activity, which are then used as RA drugs. Nucleic acid encoding RADFs can be used in gene therapy corocols. AAY41844 to AAY42100 represent RPI peptides, AAY42101 to AAY42103 represent expression reference protein isoform peptides and AAY42105 to AAY42103 represent expression reference protein isoform peptides and the CARY42105 represent RPIs at the can be used to dentify the can be used to dentify
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          arthritis (RA) using two-dimensional electrophoresis to generate a two-dimensional array of features. The method can be used for screening, diagnosis and prognosis of RA in subject or for monitoring the effect of an anti-RA drug or therapy administered to a subject. The method comprises: (a) analysing a sample of serum or plasma and optionally synovial fluid by two-dimensional electrophoresis, to generate a two-dimensional array of features; (b) identifying at least one chosen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A method has been developed for the diagnosis of human rheumatoid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure; Page 18; 157pp; English
     Sequence 12 AA;
                                                                                                     used in the exemplification of the present invention
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RESULT 8
AAY41864
ID AAY44
XX AAY4
XX AAY4
XX AAY4
XX Pheu
XX Rheu
XX Huma
XX Huma
XX Phom
XX Phom
XX Phom
XX Phom
XX Ineu
XX Phom
XX 
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; rheumatoid arthritis; RA; diagnosis; RPI; RADF; detection; rheumatoid arthritis diagnostic feature; ERPI; synovial fluid; rheumatoid arthritis diagnostic protein isoform; screening; expression reference protein isoform; prognosis.
                                                                                                                                                                                                                                                                                                                                                                                                                           13-MAR-1998;
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                                                                                                                                                                                                                                                                                   Parekh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 15-MAR-1999;
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                                                                                                                                                                                                                                                                               RB,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YLGYEYVTAI 11
                                                                                                                                                                                                                                                                               Patel TP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
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                                                                                                                                                                                                                                                                                   Townsend
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Pred. No. 35;
1; Mismatches
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Disclosure; Page 18; 157pp; English

electrophoresis.

Diagnosis of human rheumatoid arthritis by two-dimensional

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CC arthritis (RA) using two-dimensional electrophoresis to generate a two-cc dimensional array of features. The method can be used for screening, cc diagnosis and prognosis of RA in a subject or for monitoring the effect cof an anti-RA drug or therapy administered to a subject. The method cc comprises: (a) analysing a sample of serum or plasma and optionally cc synovial fluid by two-dimensional electrophoresis, to generate a two-cd dimensional array of features; (b) identifying at least one chosen cc feature whose relative abundance correlates with the presence or absence co fRA; and (c) comparing the abundance of each chosen feature in the consent feature of the the abundance of the relative abundance of the consent feature of the consent feature of features in the sample indicates the presence or consent features or features in the sample indicates the presence or consent feature or features in the sample indicates the presence or consent feature or features in the sample indicates the presence or consent feature or features in the method can also be used in clinical consents for testing drugs for therapy of RA, for purification of RA-cc diagnostic protein feature (RADF) proteins can be used to identify compounds that promote or inhibit their activity, which are then used as CR Adrugs. Nucleic acid encoding RADFs can be used in gene therapy conditions and the exemplification of the present RFI peptides, AAY42101 to AAY42103 represent expression reference protein soform peptides and cc AAZ25066 to AAZ25068 represent degenerate probes for RPIs, which are all
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local (
                                                                                                                                                                                                                                       Rye
                                                                                                                    Assay for differentiating protein isoforms to determine their concentrations in sample e.g. blood, involves contacting the sample with proteolytic enzyme to produce peptide fragment by proteolysis followed by
                                                                                                                                                                                                  WPI; 2004-625547/60.
                                                                                                                                                                                                                                                                                                            06-FEB-2003; 2003GB-00002740
                                                                                                                                                                                                                                                                                                                                                 06-FEB-2004; 2004WO-GB000480
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 glycosylation; proteolytic enzyme; proteolysis; detection; transferrin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Transferrin peptide fragment #72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             04-NOV-2004
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                                                                                                                                                                                                                                                                           AXIS-SHIELD
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Pred.
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The present invention describes an assay for a protein having at least two isoforms with different glycosylation patterns. The assay involves contacting a sample containing the protein with a proteolytic enzyme,

Sequence 12 AA

Disclosure;

Page 15; 30pp; English

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RESULT 10
ADS13240
ID ADS13
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Best Local S
Matches 7
                               The invention relates to a novel isolated marker for rheumatoid arthritis selected from one of many (around 400) markers defined in the specification. Rheumatoid arthritis is a chronic inflammatory disorder of the small joints which is estimated to affect 2.1 million people in the united States alone. Current approaches to treat the disease include the use of non-steroidal antiinflammtory drugs (NSAIDS), which may reduce pain, swelling and inflammation, and disease-modifying anti-rheumatic drugs (DMARDS), which act to slow the progression of the disease and avoid further joint injury. These drugs are associated with a number of serious side effects and the search for improved therapeutics is a subject of active research. The marker of the invention demonstrates antiarthritic activity and may be useful in preparing a composition for diagnosing or treating rheumatoid arthritis. The current sequence is that of a human rheumatoid arthritis marker peptide of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   followed by detecting the content or relative content of at least one peptide fragment produced by proteolysis. Also described is a kit for the assay method comprising the proteolytic enzyme and a substrate bound specific binding partner (81) for at least 2 of the isoforms of the proteins. The method can be used for assaying isoforms of proteins according to their glycosylation pattern to determine their concentration or relative concentration in the sample or material (e.g. blood). The method avoids use of antibodies for distinguishing between glycosylated isoforms of the proteins. The present sequence represents a transferrin peptide fragment which is used in the exemplification of the present
                                                                                                                                                                                                                                                                                                                                                    New isolated marker for rheumatoid arthritis, useful in preparing composition for diagnosing or treating rheumatoid arthritis.
                                                                                                                                                                                                                                                                                                                  Claim 1; SEQ ID NO
                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2004-690929/67.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           14-MAR-2003; 2003US-0455037P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15-MAR-2004; 2004WO-US007880
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human rheumatoid arthritis marker peptide - SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             16-DEC-2004 (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 12 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rheumatoid arthritis; marker; antiinflammtory; antiarthritic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (SURR-) SURROMED INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N
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                                                                                                                                                                                                                                                                                                                                                                                                                                                  Becker CH,
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                                                                                                                                                                                                                                                                                                                31; 184pp; English.
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Pred. No.
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                                                                                        The present invention relates to a new method for screening, diagnosis or CC prognosis of cardiac response (CR) in a subject. The method of the CC invention involves analysing a test sample of body fluid or tissue from CC subject by 2D electrophoresis to generate a 2D array of features, whose CC relative abundance correlates with the presence, absence, stage or CC severity of CR and comparing abundance of each feature with the abundance of that chosen feature in body fluid from persons free from CR. The CC method is useful for screening, diagnosis or prognosis of CR in a subject, for determining the stage or severity of CR in a subject, for conditiving a subject at risk of developing CR, or for monitoring the conditiving a subject with one or more of the CRPIS (cardiac response associated protein isoforms). The invention is useful CC diagnosis or to determine the efficacy of a given treatment regimen. CC cardiac response includes aneurysm, angina, arrhythmia, CC cardiac response includes aneurysm, angina, arrhythmia, CC cardiac response includes aneurysm, and a shock. The present amino acid sequence represents one of a collection (ABG69520-CC ABG65591) of human CRPI tryptic digest peptides, as described in the
Query Match
Best Local Similarity
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24-OCT-2001;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; cardiac response; CR; cardiac response-associated protein isoform; CRPI; aneurysm; angina; arrhythmda; cardianyopathy; cardiac arrest; myocardial infarction; coronary; atherosclerosis; oedema; endocarditis; haemorrhage; stenosis; shock; tryptic digest peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human CRPI tryptic digest peptide #41.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (OXFO-)
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US DEPT HEALTH & HUMAN SERVICES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         h 54.4%;
Similarity 70.0%;
7; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   , diagnosis or prognosis of cardiac response in a subject, b cardiac response-associated features or cardiac response-d protein isoforms in body fluid or tissue from the subject.
                                                                                                                                                                                                                                                                                                                                                                                                                                  Page 30; 138pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Holt GD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2000US-0260389P.
2001US-0254978P.
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50.0%;
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1; Mismatches
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Score
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                                                                                                                                                                                                            The present invention relates to methods and compositions for the screening, diagnosis or prognosis of vascular response (VR) in a subject. The method comprises analysing a test sample of body fluid from the subject by two-dimensional electrophoresis to generate a 2D array of vascular response-associated features (VRFs), whose relative abundance correlates with presence, absence, stage or severity of VR and comparing the abundance of each feature with the abundance of that chosen feature in body fluid from persons free from VR. The invention also describes to vascular response-associated protein isoforms (VRPIs) detectable in blood, serum or plasma. The methods and compositions of the invention are useful for the stage or severity of VR in a subject, for identifying a subject at risk of developing VR, or for monitoring the effect of therapy administered to a subject having VR. Antibodies capable of binding to the activity of VRPI is useful in the manufacture of a medicament for the treatment or prevention of VR in a subject. The vascular response correlation of VR in a subject. The vascular response
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Screening, diagnosis or prognosis of vascular response including shock, stroke, in subject, by detecting vascular response-associated features or vascular response-associated protein isoforms in body fluid from subject.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (OXFO-)
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                                                                                            includes aneurysm, stenosis, atherosclerosis, congestion, chaemorrhage, shock, stroke, varicose veins, and vasculitis ABG69370-ABG69449 represent VRPI tryptic digest peptides
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Best Local Similarity

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Score 34; Pred. No.

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Query Match Sequence

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                                                            Matches
                                                                                                                                                            conditions to produce a protein library. This method is useful for improving or altering existing proteins, as well as for isolating new proteins and nucleic acid or small molecule targets. It may also be used to improve human or humanised single-chain antibodies for the treatment of a number of diseases. The method is useful for the isolation of proteins with specific binding properties, for screening cDNA libraries and cloning new genes on the basis of protein-protein interactions. Unlike prior art, the new method does not rely on maintaining the integrity of an mRNA:ribosome:nascent chain ternary complex, which is useful end is therefore of limited use. The method does not rely on topological links between the protein and the nucleic acid so that the information of the protein is retained and can be recovered in readable,
                                                                                                                                                                                                                                                                                                                                                    The present sequence was isolated from an RNA-protein fusion library following selection for peptides that bound to a c-myc monoclonal antibody. RNA-protein fusions comprise a protein covalently linked to the 3' end of its own mRNA. The fusions are made by synthesis and in vitro or in situ translation of an mRNA molecule with a peptide acceptor attached to its 3' end. The RNA-protein fusions are incubated under high salt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Producing protein or DNA libraries which are useful for improving existing proteins, by in vitro translating protein coding sequences to produce RNA-protein fusions and incubating these protein fusions under high salt conditions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Szostak JW,
                                                                                                                     Sequence 10
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myc epitope
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Disclosure; Fig 22; 121pp; English.
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                                                          Similarity 6; Conserv
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                             EKYLGEEYV 10
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 EEYLVSEYV 9
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                                                          Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein library; protein isolation; gene cloning;
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                                                         1;
                                                       Score 30; DB 3;
Pred. No. 3.8e+02;
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                                                                                                                                        Peptides AAY04601-Y04623 represent claimed compounds which are capable of interacting with an internal receptor in the catalytic domain of Factor VII (FVII) defined by the residues Leu263, Pro264, Glu265, Phe268, Ser269, Tyr257 and Arg353 or a ligand defined by residues Cys98-Cys102 of the epidermal growth factor-2 (EGF-2) domain of FVIIa/tissue factor (TF) complex, with the exclusion of the peptide from amino acids 82-128 of FVII. The compounds can be used to prevent the formation of a functional FVIIa/TF complex, so can be used to combat or prevent blood clotting disorders, e.g. thrombosis (particularly vascular thrombosis or deep vein thrombosis) acute myocardial infarction, restenosis, angina, reclosure, cerebrovascular disease, peripheral arterial occlusive disease, hypercoagulability or pulmonary embolism. They can also be used to prevent the occurrence of blood clotting disorders caused by e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Receptor; Catalytic domain; Factor VII; epideermal growth factor-2; EGF-2; tissue factor; blood clotting disorder; thrombosis; restensis; myocardial infarction; angina; reclosure; cerebrovascular disease; peripheral arterial occlusive disease; hypercoagulability;
                                                                                                                 Sequence 10
                                                                                                                                                                                                                                                                                                                                                                    Claim 10;
                                                                                                                                                                                                                                                                                                                                                                                               New anticoagulant compounds for coagulating blood clotting disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sakariassen KS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            08-SEP-1998;
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Modified-site
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N
                                                       Similarity
5; Conser
                          EKYLGEEY 9
EQYGGEQY 9
                                                                                                                                                                                                                                                                                                                                                                    Page 37; 46pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     catalytic domain-interacting peptide #23
                                                       Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note= "peptide is cyclic due to a lactam bond between
the side chains of residues 1 and 10"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           note= "peptide is
the side chains of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         peptide;
                                                                     42.6%;
                                                     ; Score 29; DB
; Pred. No. 5.6e
2; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Receptor; catalytic domain, Pactor IXa, Factor Xa, tissue factor, angina, blood clotting disorder; thrombosis; retenosis; myocardial infarction; reclosure; cerebrovascular disease; hypercoagulability; anticoagulant; peripheral arterial occlusive disease; pulmonary embolism; cyclic.
                                                                                                                                                                                                                                                                                                                                                                         Sequence 10 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 10; Page 38; 50pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New anticoagulant compounds for treating blood clotting disorder capable of interacting with internal receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1999-215061/18
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note= "peptide is cyclic due to a lactam bond between
the side chains of residues 1 and 10"
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                                                                                                                                                                                                                                                                           42.6%;
                             1, 2005, 14:28:55
                                                                                                                                                                                                                                           Score 29; DB 2; Length 10;
Pred. No. 5.6e+02;
2; Mismatches 1; Indels
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Match Length
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1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*

2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*

3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*

4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*

5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*

6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*
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Copyright (c) 1993 - 2005
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US-07-954-213-24
US-107-954-213-24
US-10-053-485-21
US-09-462-118-21
US-09-462-118-21
US-09-187-859-1150
US-08-189-9428-1150
US-08-728-742A-68
US-08-728-742A-68
US-09-171-654-66
US-09-171-654-66
US-09-755-6308-185
US-07-954-213-11
US-07-954-213-11
US-07-954-213-12
US-07-954-213-23
US-08-166-9898-6
US-09-187-859-1102
US-09-187-859-1230
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; Patent No. 6610833
; GENERAL INFORMATION:
; APPLICANT: Rodman, Toby C.
; TITLE OF INVENTION: Monoclonal Human Natural An; FILE REFERENCE: 4436/107074-US1
; CURRENT APPLICATION NUMBER: US/09/462,118
; CURRENT FILING DATE: 1999-12-18
; NUMBER OF SEQ ID NOS: 36
; SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 22
; LENGTH: 12
; TYPE: PRT
; ORGANISM: Human
US-09-462-118-22
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US-09-462-118-22
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Best Local S
Matches 8
                                                                                                 STATE: NJ
COUNTRY: US
ZIP: 07065
                                                                                                                                            ADDRESSEE: Me
STREET: 126 E
CITY: Rahway
STATE: NJ
                                                                                                                       USA
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### ALIGNMENTS

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; Sequence 24, Application US/07954213
; Patent No. 5387504
; GENERAL INFORMATION:
APPLICANT: Mumford, Richard A.
APPLICANT: Lark, Michael W.
APPLICANT: Bayne, Ellen B.K.
APPLICANT: Hoerrner, Lori A.
TITLE OF INVENTION: MONOSPECIFIC A
TITLE OF INVENTION: FOR DETECTING
NUMBER OF SEQUENCES: 24
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merck & Co., Inc.
STREET: 126 E. Lincoln Avenue
ZIP: 07065
COMPUTER READBLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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Local Similarity 80.0%;
les 8; Conservative
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Pred. No. 0.089;
1; Mismatches
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3 STROMELYSIN CLEAVAGE PRODU
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SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:

US/07/954,213

APPLICATION NUMBER: FILING DATE: 199209 CLASSIFICATION:

19920930

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US-09-462-118-21
Sequence 21, Application US/09462118
Patent NO. 6610833
GENERAL INFORMATION:
APPLICANT: ROGMAN, Toby C.
TITLE OF INVENTION: Monoclonal Human Natural Antibodies
FILE REFERENCE: 4436/1C074-US1
CURRENT APPLICATION NUMBER: US/09/462,118
CURRENT FILING DATE: 1999-12-18
NUMBER OF SEQ ID NOS: 36
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; TYPE: PRT
; ORGANISM: Saccharomyces cerevisiae
US-10-053-485-21
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INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 12 amino acids
TYPE: AMINO ACID
STRANDENNESS: single
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Best Local
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Patent No. 6576896
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APPLICANT: Aebersold, Ruedi
APPLICANT: Aebersold, Ruedi
TITLE OF INVENTION: ELECTROOSMOTIC FLUIDIC DEVICE AND RELATED METHODS
FILE REFERENCE: UWOTL118617
CURRENT APPLICATION NUMBER: US/10/053,485
CURRENT FILING DATE: 2002-05-28
PRIOR APPLICATION NUMBER: US 09/209,880
PRIOR APPLICATION NUMBER: US 09/209,880
PRIOR FILING DATE: 1998-12-11
PRIOR APPLICATION NUMBER: US 60/069,398
PRIOR APPLICATION DATE: 1997-12-12
PRIOR FILING DATE: 1997-12-12
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NAME: Wallen, John w....
REGISTRATION NUMBER: 35,403
REFERENCE/DOCKET NUMBER: 1884;
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION 1908) 594-3905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY: linear MOLECULE TYPE: peptide
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Similarity 55.6%;
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Pred. No. 1.1e+02;
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                                                                                              APPLICANT: Blaschuk, Orest W.
APPLICANT: Symonds, James Matthew
APPLICANT: Symonds, James Matthew
APPLICANT: Gour, Barbara J.
TITLE OF INVENTION: COMPOUNDS AND METHODS FOR MODULATING MONCLASSICAL
TITLE OF INVENTION: CADHERIN-MEDIATED FUNCTIONS
FILE REFERENCE: 100086.407D1
CURRENT APPLICATION NUMBER: US/09/839,542B
CURRENT FILING DATE: 2001-04-20
NUMBER OF SEQ ID NOS: 4052
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 1150
LENGTH: 10
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APPLICANT: GOUY, BAYDARA J.
TITLE OF INVENTION: COMPOUNDS AND METHODS FOR MODULATING NONCLASSICAL
TITLE OF INVENTION: CADHERIN-MEDIATED FUNCTIONS
FILE REFERENCE: 100086.407C1
CURRENT FAPLICATION NUMBER: US/09/187,859A
CURRENT FILING DATE: 1998-11-06
NUMBER OF SEQ ID NOS: 4052
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 1150
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                                                                                                                                                                                                                                                                                                                                                            Sequence 1150, Application US/09839542B Patent No. 6569996
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Patent No. 6358920
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-09-462-118-21
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Artificial Sequence FEATURE:
OTHER INFORMATION: Representative cyclic modulating agent based on OTHER INFORMATION: cadherin-6 cell adhesion recognition sequence
                                       ORGANISM: Artificial Sequence FEATURE:
                                                                               TYPE: PRT
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mes 6; Conserv
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Pred. No. 1.5e+02;
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Pred. No.
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hes 0;
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Query Match

39.78;

Score 27;

DB 4;

Length 10;

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RESULT 8
PCT-US94-07040-8
; Sequence 8, Application PC/TUS9407040
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Best Local Similarity
Thes 5, Conserve
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 11 amino - ...
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Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: Ellenb
APPLICANT: Peiser
                                                                                                                                                                                                                                                                                                                            TYPE: emino acids
STRANDEDNESS: single
TOPOLOGY: limitation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
NAME: Caruthers, Jennie M.
REGISTRATION NUMBER: 34,464
REFERENCE/DOCKET NUMBER: 22-90A
TELECOMMUNICATION INFORMATION:
TELEPHONE: (303)499-8080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: FORM PC COMPATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/08/082,844
FILING DATE: 19930625
CLASSIFICATION: 435
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Bell, Russell N.
APPLICANT: Hussey Jr., Charles E.
APPLICANT: Shattuck-Eidens, Donna M.
APPLICANT: Swedlund, Bradley D.
TITLE OF INVENTION: Chrysanthemyl Diphosphate Synthase,
TITLE OF INVENTION: Corresponding Genes and Use In Pyre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                           LOCATION: 1..11
OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                            MOLECULE TYPE:
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STATE: Colorad
COUNTRY: Unite
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                                                                                                                                                                                                                                                                                             NAME/KEY: Modified-site
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                                                                                                               1 YEKYLGEEY 9
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                                                                                YEDYESNEY 11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E: Greenlee and Winner, P.C. 5370 Manhattan Circle, Suite 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           United States of America
                                                                                                                                               Conservative
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Bell, Russell N.
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                                                                                                                                                               39.7%;
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                                                                                                                                                                                                                           /label= Xaa
/note= "Xaa equals residues which could
identified with certainty."
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                                                                                                                                              0; Mismatches
                                                                                                                                                               Score 27;
Pred. No.
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1; Mismatches 3;
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                                                                                                                                                               1.7e+02;
                                                                                                                                                                              DB 1;
                                                                                                                                                                              Length 11;
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RESULT 9
US-08-728-742A-41
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                                                                                                                                                                                                                 Sequence 41, Application US/08728742A
Patent No. 6579695
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATCHOLIN Release #1.0, Vers
CURRENT APPLICATION DATA:
APPLICATION UNMBER: PCT/US94/07040
FILING DATE: 21-JUNE-1994
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION UNMBER: US 08/082,844
FILING DATE: 25-JUNE-1993
ATTORNEY/AGENT INFORMATION:
NAME: Caruthers, Jennie M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEX: 823189
INFORMATION FOR SEQ ID NO:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: amino acids
STRANDEDNESS: single
TOPOLOGY: line-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
APPLICANT:
APPLICANT:
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                                                                                   APPLICANT: Ralph H. Lambalot, Amy M. Geh
TITLE OF INVENTION: PHOSPHOPANTETHEINYL
NUMBER OF SEQUENCES: 78
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURE:
NAME/KEY: Modified-site
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (303) 499-8080
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OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
                        ADDRESSEE:
STREET: 28
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COUNTRY: United States of America
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Boston
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                        E: LAHIVE & COCKFIELD, LLP
28 State Street
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hussey Jr., Charles E.
Shattuck-Eidens, Donna M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Peiser, Galen D.
Bell, Russell N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Greenlee and Winner, P.C.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       39.7%;
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/note= "Xaa equals residues which could
identified with certainty."
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Pred. No. 1.7e+02;
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                                                                                                                                                         Gehring, Ralph Reid
NYL TRANSFERASES AND
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                                                                                                                                                            and Christopher T. USES THEREOF
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RESULT 10
US-08-728-742A-68
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/728,742A
FILING DATE: October 11, 1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/005,152
FILING DATE: October 13, 1995
APPLICATION NUMBER: 60/021,650
FILING DATE: July 12, 1996
ATTORNEY/AGENT INFORMATION:
NAME: Amy E. Mandragouras
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: HMI-015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 68, Application US/08728742A Patent No. 6579695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Patent No. 6579695
GENERAL INFORMATION:
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FILING DATE: OCTOBER: 13, 1995
APPLICATION NUMBER: 60/021,650
FILING DATE: July 12, 1996
ATTORNEY/AGENT INFORMATION:
NAME: Amy E. Mandragouras
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: HMI-015
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/08/728,742A
FILING DATE: October 11, 1996
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Ralph H. Lambalot, Amy M. Gehring, Ralph Reid and Christopher T. TITLE OF INVENTION: PHOSPHOPANTETHEINYL TRANSFERASES AND USES THEREOF NUMBER OF SEQUENCES: 78
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE: peptide FRAGMENT TYPE: internal
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STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DDS/MS-DOS
COCTURATOR: Dataset #1 0
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TOPOLOGY: linear
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ZIP: 02109
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Similarity 57.1%;
4; Conservation
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Pred. No. 1.9e+02;
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FILE REFERENCE: GOZES=4
CURRENT APPLICATION NUMBER: US/09/171,654A
CURRENT FILING DATE: 1999-04-29
EARLIER APPLICATION NUMBER: PCT/IL97/00129
EARLIER FILING DATE: 1997-04-18
EARLIER APPLICATION NUMBER: IL 118003
EARLIER FILING DATE: 1996-04-23
NUMBER OF SEQ ID NOS: 80
SOFTWARE: PATENTIN Ver. 2.0
SEQ ID NO 65
LENGTH: 9
                                                                                                                                                                                                            RESULT 12
US-09-171-654-66
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US-09-171-654-65
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                                                    GENERAL INFORMATION:
APPLICANT: GOZES, Illana
APPLICANT: FRIDKIN, Matityahu
TITLE OF INVENTION: CONJUGATES
TITLE OF INVENTION: VASOACTIVE
FILE REFERENCE: GOZES=4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 65, App...
No. 6239107
                                                                                                                                                                      Sequence 66, Application US/09171654A Patent No. 6239107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL
                                                                                                                                                                                                                                                                                                                                                                   Matches
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Best Local
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APPLICANT: FRIDKIN, Matityahu
TITLE OF INVENTION: CONJUGATES OF LIPOPHILIC MOIETIES AND FRAGMENTS OF
TITLE OF INVENTION: VASOACTIVE INTESTINAL PEPTIDE (VIP)
CURRENT APPLICATION NUMBER: US/09/171,654A CURRENT FILING DATE: 1999-04-29 EARLIER APPLICATION NUMBER: PCT/IL97/00129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: (617)742-421: INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                             OTHER INFORMATION: The N-terminus is modified with a stearcyl moiety; OTHER INFORMATION: the C-terminal residue is amidated; OTHER INFORMATION: residue 5 is aminocaproic acid.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE: OTHER INFORMATION: Description of Unknown Organism: Artificial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: linear
MOLECULE TYPE: peptide
FRAGMENT TYPE: internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
LENGTH: 12 amino acids
TYPE: amino acid
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELECOMMUNICATION INFORMATION:
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Similarity 57.1%;
4; Conservative
                                                                                                                                                                                                                                                                                                                                                                   Similarity
4; Conserv
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                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                   38.2%;
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                                                                          OF LIPOPHILIC MOIETIES AND FRAGMENTS OF INTESTINAL PEPTIDE (VIP)
                                                                                                                                                                                                                                                                                                                                                                                     Score 26; DB 3;
Pred. No. 4.1e+05;
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                                                                                                                                                                                                                                                                                                                                                                                                     Length 9;
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APPLICANT: ASTWOOD, JAMES D.
APPLICANT: SAWPSON, HUGH A.
APPLICANT: MCHERTER, CHARLES A.
TITLE OF INVENTION: PREPARATION OF DEALLERGENIZED PROTEINS AND PERMUTEINS
FILE REFERENCE: 11899.0217.NPUSOO (MOBTZ17)
CURRENT APPLICATION NUMBER: US/09/755,630B
CURRENT FILING DATE: 2001-01-05
PRIOR APPLICATION NUMBER: US 60/174,669
PRIOR APPLICATION NUMBER: US 60/174,669
PRIOR PRILING DATE: 2000-01-06
NUMBER OF SEQ ID NOS: 295
SOFTWARE: PATCHNIC LING LING LING SEQ ID NO 185
LENGTH: 10
TYPE: non-
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EARLIER APPLICATION NUMBER: IL 118003
EARLIER FILING DATE: 1996-04-23
NUMBER OF SEQ ID NOS: 80
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 66
                                                                                                                                                              Patent No. 5387504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                          GENERAL INFORMATION:
APPLICANT: Mumford, Richard A.
APPLICANT: Lark, Michael W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 9
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OTHER INFORMATION: The N-terminus is modified with a stearoyl moiety; OTHER INFORMATION: the C-terminal residue is amidated; OTHER INFORMATION: residue 5 is aminolauric acid.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OTHER INFORMATION: Synthetic polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Unknown FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OTHER INFORMATION: Description of Unknown Organism: Artificial
              APPLICANT: Bayne, Ellen B.K.
APPLICANT: Hoerrner, Lori A.
TITLE OF INVENTION: MONOSPECIFIC ANTIBODIES AND ASSAY SYSTEM
TITLE OF INVENTION: FOR DETECTING STROMELYSIN CLEAVAGE PRODUCTS
NUMBER OF SEQUENCES: 24
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                   EKYLGEEYVK 11
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Pred. No. 4.1e+05;
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COUNTRY: USA

ZIP: 07065

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25

CURRENT APPLICATION DATA:
APPLICATION UMBER: US/07/954,213
FILING DATE: 1920930
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Wallen, John W.III
REGISTRATION NUMBER: 35,403
REFERENCE/DOCKET NUMBER: 35,403
REFERENCE/DOCKET NUMBER: 1842
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 4; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Patent No. 538750
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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FILING DATE: 19920930
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Wallen, John W. III
REGISTRATION NUMBER: 35,403
REFERENCE/DOCKET NUMBER: 1884
TELECHONE: (908) 594-3905
TELEPHONE: (908) 594-4720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Mumford, Richard A. APPLICANT: Lark, Michael W. APPLICANT: Bayne, Ellen B.K. APPLICANT: Hoerrner, Lori A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES: 2
                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Hoerrner, Lori A.
TITLE OF INVENTION: MONOSPECIFIC F
TITLE OF INVENTION: FOR DETECTING
NUMBER OF SEQUENCES: 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 12 amino acids
TYPE: AMINO ACID
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                             CITY: Rahway
STATE: NJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CITY:
STATE:
                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE: Merck & Co., Inc. STREET: 126 E. Lincoln Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE: Merck & Co., Inc.
STREET: 126 E. Lincoln Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
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ilarity 57.1%;
Conservative
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Pred. No. 2.8e+02;
2; Mismatches 1
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TELEPHONE: (908) 594-3905
; INFORMATION FOR SEQ ID NO: 17:
SEQUENCE CHARACTERISTICS:
LENGTH: 12 amino acids
TYPE: AMINO ACID
STRANDEDNESS: single
TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-07-954-213-17

Query Match
Best Local Similarity 57.1%; Pred. No. 2.8e+02;
Matches 4; Conservative 2; Mismatches 1; Indels 0; Gaps
Oy
4 YLGEBYV 10
Db 1 YTGEDFV 7

Search completed: November 1, 2005, 14:41:34

Job time: 43 secs
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence:
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"(cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
(cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*
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(cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*
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Copyright (c) 1993 - 2005 Compugen Ltd.
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

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44.1 41.2	50.0 50.0 44.1	63.2 54.4	100.0	Query Match
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US-10-823-810-3 US-10-482-284A-11	US-10-033-741-41 US-10-033-662-41 US-10-823-253-3	US-10-251-526-22 US-10-801-990-182 US-10-700-330-241 US-10-801-990-31	US-10-612-162-4 US-10-247-946-22	ID
Sequence 3	Sequence 41, Appl Sequence 41, Appl Sequence 3, Appli	Sequence 2 Sequence 2 Sequence 2 Sequence 3	Sequence &	Description
3, Appli li, Appl	41, Appl 11, Appl 3, Appli	22, Appl 182, App 241, App 31, Appl	4, Appli 12, Appli 22, Appl	

RESULT 2 US-10-247-946-22

28 41.2 9 17 US-10-482-284A-28 41.2 10 16 US-10-464-576-1 28 41.2 10 16 US-10-55-929-8 28 41.2 11 14 US-10-053-485-21 28 41.2 11 14 US-10-053-485-21 28 41.2 12 14 US-10-247-946-21 28 41.2 12 14 US-10-247-946-21 28 41.2 12 14 US-10-268-869-1150 27 39.7 10 15 US-10-293-032-1150 27 39.7 10 15 US-10-98-707-221 26 38.2 10 10 US-99-572-4048-976 26 38.2 11 14 US-10-209-372-36 26 38.2 11 14 US-10-209-372-36 25 36.8 8 14 US-10-206-869-1102 25 36.8 8 14 US-10-206-869-1102 25 36.8 8 12 US-10-206-869-1230 25 36.8 8 12 US-10-204-107-1230 25 36.8 8 20 US-11-044-107-1230 25 36.8 9 16 US-10-948-707-682 25 36.8 10 18 US-10-948-707-682 25 36.8 10 14 US-10-066-869-1104 25 36.8 10 14 US-10-066-869-1336 25 36.8 10 15 US-10-066-869-1336 25 36.8 10 15 US-10-066-869-1336 25 36.8 10 15 US-10-066-869-1336 25 36.8 10 14 US-10-066-869-1336 25 36.8 10 15 US-10-066-869-1336 2
1.2 9 17 US-10-482-284A-28 1.2 10 16 US-10-505-929-8 1.2 10 16 US-10-053-485-21 1.2 11 14 US-10-053-485-21 1.2 12 14 US-10-251-526-21 1.2 12 14 US-10-251-526-21 1.2 12 14 US-10-251-526-21 1.2 12 14 US-10-26-869-115 9.7 10 15 US-10-948-707-221 8.2 10 10 US-09-572-4048-97 8.2 10 10 US-09-572-4048-97 8.2 10 10 US-09-572-4048-97 8.2 10 10 US-09-372-36 8.2 10 14 US-10-209-372-36 8.2 10 14 US-10-209-372-36 8.2 10 15 US-10-209-372-36 8.2 10 14 US-10-209-372-36 8.2 10 15 US-10-209-372-36 8.2 10 15 US-10-209-372-36 8.3 15 US-10-206-869-110 6.8 8 10 US-10-066-869-110 6.8 9 16 US-10-19-536A-10 6.8 9 16 US-10-19-536A-10 6.8 9 16 US-10-19-536A-10 6.8 9 16 US-10-19-536A-10 6.8 10 US-10-066-869-110 6.8 10 14 US-10-066-869-110
9 17 US-10-482-284A-28 9 18 US-10-505-929-8 10 16 US-10-646-576-1 11 US-10-93-485-21 2 14 US-10-297-946-2 2 14 US-10-297-946-2 2 14 US-10-298-7032-115-0 0 15 US-10-395-032-115-0 0 20 US-11-004-107-115-0 0 20 US-11-004-107-221-0 10 US-09-572-404B-97-0 10 US-09-572-630A-18-0 11 US-10-209-372-36-0 14 US-10-209-372-36-0 15 US-10-209-372-36-0 16 US-10-209-372-36-0 17 US-10-209-372-36-0 18 14 US-10-209-372-36-0 19 US-10-298-139-11-0 19 US-10-395-032-110-0 10 US-10-395-032-120-0 10 US-10-395-032-120-0 10 US-10-298-869-120-0 10 US-10-298-869-120-0 10 US-10-298-869-110-0 11 US-10-006-869-120-0 12 US-10-006-869-110-0 13 US-10-006-869-110-0 14 US-10-006-869-110-0 14 US-10-006-869-110-0 14 US-10-006-869-110-0 15 US-10-006-869-110-0 14 US-10-006-869-110-0 15 US-10-006-869-110-0
US-10-442-284A-28 US-10-505-929-8 US-10-053-445-576.1 US-10-053-485-21 US-10-251-526-21 US-10-251-526-21 US-10-251-526-21 US-10-066-869-115 US-11-004-107-115 US-10-293-313A-76 US-10-280-139-11 US-10-280-119-536A-10 US-10-395-032-120 US-10-19-536A-10 US-10-19-536A-10 US-10-19-536A-10 US-10-180-520-20 US-10-180-680-119 US-10-066-869-119 US-10-066-869-119 US-10-066-869-119 US-10-066-869-119 US-10-066-869-119 US-10-066-869-119 US-10-066-869-119 US-10-066-869-119
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### ALIGNMENTS

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Sequence 4. Application US/10612162

Publication No. US20040014145A1

GENERAL INFORMATION:

APPLICANT: Dade Behring Marburg GmbH

ITITLE OF INVENTION: Carbohydrate deficient transferrin (CDT)-specific

ITITLE OF INVENTION: antibodies, their preparation and use

FILE REFERENCE: 2002/B001

CURRENT APPLICATION NUMBER: US/10/612,162

CURRENT FILING DATE: 2003-07-03

PRIOR APPLICATION NUMBER: 10230550.1

PRIOR APPLICATION NUMBER: 03011334.4

PRIOR FILING DATE: 2003-05-19

NUMBER OF SEQ ID NOS: 4

SOFTWARE: PatentIn Ver. 2.1
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US-10-612-162-4
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LENGTH: 13
TYPE: PRT
                                                                                         Query Match 100.0%; Score 68; DB 15; Length 13; Best Local Similarity 100.0%; Pred. No. 0.00018; Matches 13; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                               ORGANISM: Homo sapiens
                              1 YEKYLGEEYVKAV 13
YEKYLGEEYVKAV 13
                                                                                              0
                                                                                              Gaps
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Application US/10247946

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APPLICANT: KANTOY, AAYON B.
APPLICANT: SCHIMMAN, Howard
APPLICANT: SCHIMMAN, Howard
TITLE OF INVENTION: BIOMARKERS FOR RHEUMATOID ARTHRITIS
FILE REFERENCE: SURR.121
CURRENT APPLICATION NUMBER: US/10/801,990
CURRENT FILING DATE: 2004-03-15
PRIOR APPLICATION NUMBER: US 60/455,037
PRIOR APPLICATION NUMBER: US 60/455,037
PRIOR FILING DATE: 2003-03-14
NUMBER OF SEQ ID NOS: 395
SOFTWARE: PATENTIN VETSION 3.2
SEQ ID NO 182
                                                                                                                                                                                                                                               US-10-801-990-182
Sequence 18: Application US/10801990
Publication No. US20050048574A1
GENERAL INFORMATION:
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Best Local Similarity
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SOFTWARE: FASTSEQ for Windows Version 3.0
SEQ ID NO 22
LENGTH: 12
TYPE: PRT
ORGANISM: Human
US-10-251-526-22
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TYPE: PRT
ORGANISM: Human
S-10-247-946-22
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TITLE OF INVENTION: Monoclonal Human Natural Antibodies
FILE REFERENCE: 4436/IC074-US1
CURRENT APPLICATION NUMBER: US/10/247,946
CURRENT FILING DATE: 2002-09-20
PRIOR APPLICATION NUMBER: US/09/462,118
PRIOR APPLICATION NUMBER: US/09/462,118
PRIOR FILING DATE: 1999-12-18
NUMBER OF SEQ ID NOS: 36
SOPTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 22
FENTEW: 12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Rodman, Toby C.
TITLE OF INVENTION: Monoclonal Human Natural Antibodies
FILE REFERENCE: 4436/1074-US1
CURRENT APPLICATION NUMBER: US/10/251,526
CURRENT FILING DATE: 2002-09-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: US/09/462,118 PRIOR FILING DATE: 1999-12-18
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Local Similarity 80.0%;
les 8; Conservative
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Pred. No. 0.72
1; Mismatches
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0.72;
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4 YLGEEYVKAV 13

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Query Match
Best Local Similarity
Matches 6; Conserve
                                                                     ; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-801-990-31
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US-10-700-330-241
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                                                                                                                                          SOFTWARE: PE
SEQ ID NO 31
                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
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SEQ ID NO 241
   Matches
              Query Match
Best Local 9
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Matches 8; Conservative
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                                                                                                                                                                          CURRENT FILING DATE: 2004-03-15
PRIOR APPLICATION NUMBER: US 60/455,037
PRIOR FILING DATE: 2003-03-14
NUMBER OF SEQ ID NOS: 395
                                                                                                                                                                                                                                CURRENT APPLICATION NUMBER: US/10/801,990 CURRENT FILING DATE: 2004-03-15
                                                                                                                                                                                                                                                                  APPLICANT: Schulman, Howard
APPLICANT: Becker, Christopher
TITLE OF INVENTION: BIOMARKERS;
FILE REFERENCE: SURR.121
                                                                                                                                                                                                                                                                                                     APPLICANT: Kantor, Aaron B. APPLICANT: Schulman, Howar APPLICANT: Becker, Christo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION NUMBER: GB 0128183.1
PRIOR FILING DATE: 2001-11-23
NUMBER OF SEQ ID NOS: 269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/10/700,330
CURRENT FILING DATE: 2003-11-03
PRIOR APPLICATION NUMBER: GB 0110886.9
PRIOR FILING DATE: 2001-05-03
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APPLICANT: Page, Martin John
TITLE OF INVENTION: Proteins and Genes For Diagnosis And Treatment of ErbB2-Related C
FILE REFERENCE: 2543-1-031
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TYPE: PRT
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                Similarity
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 Conservative
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54.5%;
                54.4%;
70.0%;
 1; Mismatches
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                Score 37; DB
Pred. No. 22;
                                                                                                                                                                                                                                                                                    FOR RHEUMATOID ARTHRITIS
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Pred. No. 2
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2.3;
                                 Length 12;
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Best Local Similarity
Warrches 6; Conserve
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SEQ ID NO 41
LENGTH: 12
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LENGTH: 12
TYPE: PRT
ORGANISM: Homo sapiens
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Publication No. US20030049640A1
GENERAL INFORMATION:
APPLICANT: Herman, et al.
TITLE OF INVENTION: Proteins, Genes and Their Use For Diagnosis and Treatment of Vasc
TITLE OF INVENTION: Response
FILE REFERENCE: 9195-079
CURRENT APPLICATION NUMBER: US/10/033,741
CURRENT FILING DATE: 2001-12-27
NUMBER OF SEQ ID NOS: 80
                                                                                                                      Sequence 3, Application US/10823253
Publication No. US20050002934A1
GENERAL INFORMATION:
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Best Local Similarity
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APPLICANT: Reed, Jennifer

TITLE OF INVENTION: RECOMBINANT IL-9 ANTIBODIES AND USES THEREOF

FILE REFERENCE: 10271-112-999

CURRENT APPLICATION NUMBER: US/10/823,253

CURRENT FILING DATE: 2004-04-12

PRIOR APPLICATION NUMBER: 60/462,259

PRIOR PILING DATE: 2003-04-11

PRIOR FILING DATE: 2003-04-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Herman, et al.
TITLE OF INVENTION: Proteins, Genes and Their Use For Diagnosis and Treatment of Card
TITLE OF INVENTION: Response
FILE REFERENCE: 9195-081
CURRENT APPLICATION NUMBER: US/10/033,662
CURRENT FILING DATE: 2001-12-27
RUMBER OF SEQ ID NOS: 72
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ORGANISM: Homo sapiens
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YLGYEYVTAI
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Pred. No.
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Pred. No.
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                                                                                              PRIOR APPLICATION NUMBER: AU PR5931
PRIOR FILING DATE: 2001-06-26
NUMBER OF SEQ ID NOS: 318
SOFTWARE: PatentIn version 3.2
SEQ ID NO 11
                                                                                                                                                                                                                                                                                                                                                                              Sequence 11, Application US/10482284A Publication No. US20050019344A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 3, Application US/10823810
Publication No. US20050147607A1
GENERAL INFORMATION:
APPLICANT: Reed, Jennifer
TITLE OF INVENTION: METHODS OF PREVENTING OR TREATING RESPIRATORY CONDITIONS
FILE REFERENCE: 10271-113-999
CURRENT APPLICATION NUMBER: US/10/823,810
CURRENT FILING DATE: 2004-04-12
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Best Local Similarity 62.5
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NUMBER OF SEQ ID NOS: 60
SOFTWARE: PatentIn version 3.2
SEQ ID NO 3
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Best Local Similarity
                                                                                                                                                                                                                                APPLICANT: KHANNA, Rajiv
APPLICANT: ELKINGTON, Rebecca A.
APPLICANT: WALKER, Susan J.
TITLE OF INVENTION: Novel human cytomegalovirus (HCMV) cytotoxic T cell epitopes,
TITLE OF INVENTION: polyepitopes, compositions comprising same and diagnostic an
TITLE OF INVENTION: uses therefore
FILE REFERENCE: 47-203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/10/482,284A CURRENT FILING DATE: 2003-12-29
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: 60/462,307 PRIOR FILING DATE: 2003-04-11 PRIOR APPLICATION NUMBER: 60/477,801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR FILING DATE: 2003-06-10
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TYPE: PRT
ORGANISM: Homo sapiens
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FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: human cytomegalovirus pp65 (
                                             ORGANISM: Artificial Sequence
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                                                                   TYPE: PRI
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                                                                                    ENGTH: 9
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62.5%;
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Pred. No.
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Pred. No. 3.5e+02;
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RESULT 13
US-10-482-284A-28
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US-10-482-284A-25
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APPLICANT: WALKER, Susan J.

TITLE OF INVENTION: Novel human cytomegalovirus (HCMV) cytotoxic T cell epitopes,

TITLE OF INVENTION: polyepitopes, compositions comprising same and diagnostic and

TITLE OF INVENTION: uses therefore

TITLE OF INVENTIO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 28, Application US/10482284A
publication No. US20050019344A1
GENERAL INFORMATION:
APPLICANT: KHANNA, Rajiv
APPLICANT: ELKINGTON, Rebecca A.
APPLICANT: WALKER, Susan J.
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APPLICANT: KHANNA, Rajiv
APPLICANT: ELKINGTON, RA
APPLICANT: WALKER, Susai
                                                                                                                                                    SOFTWARE: PatentIn version 3.2
SEQ ID NO 28
LENGTH: 9
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Publication No.
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                                                                                                                                                                                                                                 APPLICANT: WALKER, Susan J.

TITLE OF INVENTION: Novel human cytomegalovirus (HCMV) cytotoxic T cell epitopes,
TITLE OF INVENTION: polyepitopes, compositions comprising same and diagnostic and
TITLE OF INVENTION: uses therefore
FILE REFERENCE: 47-203
CURRENT FILING DATE: 2003-12-29
PRIOR APPLICATION NUMBER: US/10/482,284A
CURRENT FILING DATE: 2001-06-26
NUMBER OF SEQ ID NOS: 318
ROPTMAREN: DESCRIPT NUMBER: 318
                                                                                                                       TYPE: PRT
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TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: OTHER INFORMATION: epitope peptide
                                                                                          ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION:
                                                                   FEATURE:
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Similarity 57.1%;
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10. US20050019344A1
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 Mismatches

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Pred. No. 1 7e+06;
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Pred. No.
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// ORGANISM: Cytomegalovirus
US-10-505-929-8
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NUMBER OF SEQ ID NOS: 584
SOFTWARB: PatentIn Ver. 2.1
SEQ ID NO 8
LENGTH: 9
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Best Local Similarity
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APPLICANT: SCHALI
APPLICANT: VYTVYT
APPLICANT: AICHIN
                                                                                                                                                                                                                                                                                                                                                                               FILE REFERENCE: deh055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
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Similarity 57.1%;
4; Conservative
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VYTVYTSKA, ORESTA
AICHINGER, GERALD
OTAVA, ALEXANDER
      PatentIn
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Sequence 1, Application US/10464576
Publication No. US20040188603A1
GENERAL INFORMATION:
APPLICANT: Bateman, Robert H
APPLICANT: Bateman, Robert H
APPLICANT: Langridge, James I
APPLICANT: McKenna, Therese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: MATTNER, FRANK
TITLE OF INVENTION: METHOD FOR ISOLATING LIGANDS
FILE REFERENCE: SONN:055US
CURRENT APPLICATION NUMBER: US/10/505,929
CURRENT FILING DATE: 2004-08-27
PRIOR APPLICATION NUMBER: PCT/EP03/02005
PRIOR FILING DATE: 2003-02-27
PRIOR PILING DATE: 2003-02-28
PRIOR APPLICATION NUMBER: A 316/2002
PRIOR APPLICATION NUMBER: A 1376/2002
PRIOR APPLICATION NUMBER: A 1376/2002
CURRENT APPLICATION NUMBER: US/10/464,576
CURRENT FILING DATE: 2003-06-19
PRIOR APPLICATION NUMBER: uk 0217146.0
PRIOR FILING DATE: 2002-07-24
PRIOR APPLICATION NUMBER: uk 0218719.3
PRIOR FILING DATE: 2002-08-12
PRIOR APPLICATION NUMBER: uk 0221914.5
PRIOR APPLICATION NUMBER: uk 0305796.5
PRIOR FILING DATE: 2002-09-20
PRIOR PILING DATE: 2002-03-13
PRIOR FILING DATE: 2002-03-13
PRIOR FILING DATE: 2002-03-13
PRIOR FILING DATE: 2002-03-13
                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Richardson, Keith
TITLE OF INVENTION: Method of Mass Spectrometer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 28; DB 17;
Pred. No. 1.7e+06;
3; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 28; DB 18;
Pred. No. 1.7e+06;
3; Mismatches 0;
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SEQ ID NO 1
LENGTH: 10
TYPE: PRT
ORGANISH: unknown
DENTHERMOMATION: Chemically Synthesized
US-10-464-576-1

Ouery Match
Matches 6: 78; Pred: No. 5.66-02;
Matches 6: 70; Pred: No. 5.66-02;
Job time: 163 secs

Job time: 163 secs
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Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                 Result
No.
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Maximum DB
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Maximum Match
Listing first
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       95
  Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                 Score
                                                                                                                                                                                                                                                                                                                                                                             geq
geq
  protein search, using
                                                                                                                                                                                                                                                                                                                                                                             length: 0
length: 13
                                                                                                                                                                                                                                 Match Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     November 1, 2005, 14:21:39 ; Search time 38 Seconds (without alignments) 32.916 Million cell updates/sec
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1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*
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   GenCore version 5.1.6 (c) 1993 - 2005 Compugen Ltd.
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T-cell receptor be
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Ig heavy chain CRD
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                              urease (EC 3.5.1.5 enkephalin precurs
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hemolysin - Po
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urease (EC 3.5.1.5
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                                                                                          antigen 7H8/2 -
                                                                                                hemolysin
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1/2 - ma
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23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	25.0	25.0	25.0	25.0	25.0	25.0	25.0
12	12	12	11	9	9	9	9	7	13	13	13	12	12	11	10
2	N	N	N	N	N	N	2	N	N	N	N	N	N	N	N
T46794	S23168	PH1308	PH1375	A37027	G41978	F41978	E41978	A38081	S47373	PT0290	PT0263	PH1466	S18722	B60769	A13687
hypothetical prote	Z protein - guinea	Ig heavy chain DJ	T antigen variant	macrophage chemota	calliFMRFamide 7 -	calliFMRFamide 6 -	calliFMRFamide 5 -	amine oxidase (cop	T-cell antigen rec	Ig heavy chain CRD	Ig heavy chain CRD	T-cell receptor be	matK protein - bee	Ig H2 chain - Paci	caerulein-like pep

### ALIGNMENTS

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RESULT 1
PH0746
Pr-cell receptor beta chain (B28) - mouse (fragment)
C:Species: Mus musculus (house mouse)
C:Species: Mus musculus (house mouse)
C:Species: Mus musculus (house mouse)
C:Date: 17-Jul-1992 #sequence_revision 17-Jul-1992 #text_change 05-Nov-1999
C:Accession: pH0746
R;Casanova, J.L.; Romero, P.; Widmann, C.; Kourilsky, P.; Maryanski, J.L.
J. Exp. Med. 174, 1371-1383, 1991
A;Title: T cell receptor genes in a series of class I major histocompatibility complex-relative exclusion and antigen-specific repertoire.
A;Reference number: pH0746; MUID:92078846; PMID:1836010
A;Accession: pH0746
A;Molecule type: mRNA
A;Residues: 1-12 <CAS>
A;Cross-references: EMBL:X60837; NID:g50098; PIDN:CAA43230.1; PID:g50099
A;Experimental source: T lymphocyte
C;Keywords: T-cell receptor
                                                                                                                                                      A,Molecule type: mRNA
A;Residues: 1-12 <CAS>
A;Cross-references: EMBL:X60865; NID:g53624; PIDN:CAA43255.1; PID:g53625
A;Experimental source: T lymphocyte
C;Keywords: T-cell receptor
                                                                                                                                                                                                                                                                           R;Casanova, J.L.; Romero, P.; Widmann, C.; Kourilsky, P.; Maryanski, J.L.
J. Exp. Med. 174, 1371-1383, 1991
A;Title: T cell receptor genes in a series of class I major histocompatibility complex-rallelic exclusion and antigen-specific repertoire.
A;Reference number: PH0746; MUID:92078846; PMID:1836010
A;Accession: PH0771
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C;Species: Mus musculus (house mouse)
C;Date: 17-Jul-1992 #sequence_revision 17-Jul-1992 #text_change 05-Nov-1999
C;Accession: PH0771
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66.7%;
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; Pred. No. 2.9e
1; Mismatches
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. 2.9e+02;
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C;Accession: S25056
R;Jacob, J.; Kelsoe, G.
submitted to the EMBL Data Library, July 1992
A;Description: In situ studies on the primary
                                                                                                                                                                                                                                                                                              Ig heavy chain - mouse
C;Species: Mus musculus (house mouse)
C;Date: 25-Feb-1994 #sequence_revision
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
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Exp. Cell Res. 192, 102-109, 1991

A;Title: Molecular cloning of transcripts that accumulate during A;Reference number: PH0108; MUID:91078351; PMID:1984406

A;Accession: PH0108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    late G1-69 protein - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Date: 16-Jul-1999 #sequence_revision 16-Jul-1999 #text_change 16-Jul-1999
C;Accession: PH0108
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R;Casanova, J.L.; Martinon, F.; Gournier, H.; Barra, C.; Pannetier, C.; Regnault, A.; Kd J. Exp. Med. 177, 811-820, 1993
A;Title: T cell receptor selection by and recognition of two class I major histocompatib A;Reference number: PH1430; MUID:93171821; PMID:8436911
A;Accession: PH1479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   T-cell receptor beta chain (clone A3/72.2) - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 15-Mar-2004
                                                                                                                              A;Status: preliminary
A;Molecule type: nucleic acid
A;Residues: 1-12 <JAC>
                                                                                                                                                                                    A; Reference number: S25024
A; Accession: S25056
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A;Residues: 1-13 <CAS>
A;Experimental source: cytolytic T-lymphocyte
C;Keywords: receptor; T-cell
                                                                     Cross-references: EMBL:X67386; NID:g50927; PIDN:CAA47798.1; PID:g1333920
|Superfamily: immunoglobulin V region; immunoglobulin homology
|Keywords: heterotetramer; immunoglobulin
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ilarity 100.0%;
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               33.8%;
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; Pred. No.
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                   Score 23; DB 2;
Pred. No. 9.6e+02;
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Pred. No. 3.2e+02;
Mismatches
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A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-13 <LEH>
A;Cross-references: EMBI
C;Keywords: T-cell recej
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submitted to the EMBL Data Library, August 1994
A;Description: Human HLA-A0201 restricted recognition of influenza A is dominated by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R;Nakano, N.; Kikutani, H.; Nishimoto, H.; Kishimoto, T.
J. Exp. Med. 173, 1091-1097, 1991
A;Title: T cell receptor V gene usage of islet beta cell-reactive T cells is A;Reference number: PT0209; MUID:91217621; PMID:1902501
A;Accession: PT0214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R;Nakano, N.; Kikutani, H.; Nishimoto, H.; Kishimoto, T.
J. Exp. Med. 173, 1091-1097, 1991
A;Title: T cell receptor V gene usage of islet beta cell-reactive T cells is A;Reference number: PT0209; MUID:91217621; PMID:1902501
A;Accession: PT0215
                                                                                                                                                                                                                                                                     T-cell antigen receptor VJ junction beta chain - human C;Species: Homo sapiens (man) C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 05-Nov-1999 C;Accession: S47359
                                                                                                                                                                                                                                                                                                                                                    RESULT 8
S47359
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: mRNA
A; Residues: 1-11 <NAK>
C; Keywords: T-cell receptor
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A; Accession: $47359
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A;Residues: 1-10 <NAK>
C;Keywords: T-cell receptor
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                                                                                               Cross-references: EMBL: Z35683; NID: g527455; PIDN: CAA84752.1;
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75.0%;
  Score 20; DB 2; Lo
Pred. No. 3.4e+03;
1; Mismatches 0;
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Pred. No. 2.6e+03;
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Pred. No. 2.
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2.9e+03;
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RESULT 10
S47365
T-cell antigen receptor VJ junction beta chain - human
C;Species: Homo sapiens (man)
C;Species: Homo sapiens (man)
C;Jate: 06-Jan-1995 #sequence revision 06-Jan-1995 #text change 05-Nov-1999
C;Jaccession: $47365; $47375; $47379; $47396; $47397; $47398; $47355
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847361
A;Molecule type: mRNA
A;Residues: 1-13 <LE6>
A;Residues: 1-13 <LE6>
A;Cross-references: EMBL:Z35676; NID:g527531;
C;Keywords: T-cell receptor
                                                                                                                                                                                                             A; Molecule type: mRNA
A; Residues: 1-13 < LE4>
A; Crose-references: EMBL: Z35674; NID: g527527; PIDN: CAA84743.1;
A; Accession: S47397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  submitted to the EMBL Data Library, August 1994
A;Description: Human HLA-A0201 restricted recogn
A;Reference number: S47355
A;Accession: S47365
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                                                                                                                                                A; Molecule type: mRNA
A; Residues: 1-13 <LE5>
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A; Residues: 1-13 < LE3>
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A; Residues: 1-13 < LEH>
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A;Accession: S47361
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A;Accession: S47379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Cross-references: EMBL:Z35690; NID:g527471; PIDN:CAA84759.1; PID:g527472; EMBL:Z35679.
A;Accession: S47375
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A; Residues: 1-13 < LEH>
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                                                                                   A;Statue: preliminary
                                                                                                    A;Accession: S47398
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                                                                                                                        Cross-references: EMBL: Z35675; NID: g527529; PIDN: CAA84744.1;
                                                                                                                                                                                         Status: preliminary
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Best Local
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YEKY
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3.4e+03
                        PIDN:CAA84745.1;
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RESULT 13
S47383
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C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #te:
C;Accession: S47372
R;Lehner, P.J.
R;Lehner, P.J.
Submitted to the EMBL Data Library, August 1994
A;Description: Human HLA-A0201 restricted recognition of the second sec
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S47372
                                                                                                                     T-cell antigen receptor VJ junction beta chain - C;Species: Homo sapiens (man)
C;Date: 06-Jan-1995 #sequence_revision 06-Jan-199
C;Accession: S47383
R;Lehner, P.J.
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A;Molecule type: mRNA
A;Residues: 1-13 <LEH>
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A;Residues: 1-13 <LEH>
A;Cross-references: EMBL:Z35693; NID:g527477; PIDN:CAA84762.1;
C;Keywords: T-cell receptor
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C;Species: Homo sapiens (man)
C;Date: 06-Jan-1958 #sequence_revision 06-Jan-195
C;Accession: S47368
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S47368
                                                  submitted to the EMBL Data Library, August 1994
A;Description: Human HLA-A0201 restricted recognition of influenza
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A; Accession: S47372
A; Reference number: A; Accession: S47383
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A; Accession: S47368
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Best Local S
Matches 3
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Best Local S
Matches 3
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Best Local
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                                 S47355
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75.0%;
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Pred. No. 3.4e+03;
1; Mismatches 0;
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Pred. No. 3.4e+03;
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R;Lehner, P.J.
submitted to the EMBL Data Library, August 1994
A;Description: Human HLA-A0201 restricted recognition of influenza A is dominated by T A;Reference number: 847355
A;Accession: $47384
A;Accession: $47384
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A;Molecule type: mRNA
A;Residues: 1-13 <LEH>
A;Cross references: EMBL:Z35709; NID:g527513; PIDN:CAA84778.1; PID:g527514
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S47384
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A;Accession: S47399
A;Status: preliminary
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A;Molecule type: mRNA
A;Residues: 1-13 <LEH>
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submitted to the EMBL Data Library, August 1994
A;Description: Human HLA-A0201 restricted recognition of influenza A is dominated by T
A;Reference number: S47355
A;Accession: S47374
                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 15
37374
St7374
T-cell antigen receptor VJ junction beta chain - human (fragment)
C;Species: Homo sapiens (man)
C;Date: 06-Jan-1995 #sequence revision 25-Oct-1996 #text_change 05-Nov-1999
C;Accession: S47374; S47399; S47364
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A;Molecule type: mRNA
A;Residues: 1-13 <LEH>
A;Cross-references: EMBL:Z35704; NID:g527501; PIDN:CAA84773.1; PID:g527502
C;Keywords: T-cell receptor
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A; Residues: 1-13 <LE2>
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Keywords: T-cell receptor
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1; Mismatches 0; Indels
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Search completed: November

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Job time : 38 secs

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Perfect score:
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1: uniprot_sprot:*
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68
1 YEKYLGEEYVKAV 13
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Gapop 10.0 , Gapext 0.5
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	0	S	4.	u	2	ــر	Result
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staphyloco	diadema a	homo sapi	clostridium	klebsiell	ovis arie	ovis arie	тив вр. с	mus muscu	helicobacte	salmonella	cryptheco	bos taurus	TOTO COLO

## ALIGNMENTS

RESULT 1 Q7WUG1

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RESULT 3
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Q50038;
01-NOV-1996
01-NOV-1996
                                                          NON TER
NON TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                       Smith D.R. Submitted
                                                                                                                                                                                                          Q6BCZ9;
25-OCT-2004 (TrEMBLrel.
25-OCT-2004 (TrEMBLrel.
25-OCT-2004 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                 Robison K.;
Submitted (SEP-1994) to the EMBL/GenBank/DDBJ
EMBL; U15182; AAA62970.1; -.
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NON TER 12 12
SEQUENCE 12 AA; 1170 MW
                                                                                       "Protein S variant in Exon3 Submitted (PEB-2004) to the EMBL; AB162156; BAD36740.1;
                                                                                                                                                         Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                Q6BCZ9
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Similarity 55.6%;
5; Conservation
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                   Score 22; DB:
Pred. No. 1.6e
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Q90ZV5;
Q90ZV5;
01-DEC-2001 (TrEMBLrel. 19, Cr
01-DEC-2001 (TrEMBLrel. 19, La
01-JUN-2003 (TrEMBLrel. 24, La
Adenylate kinase (Fragment).
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
r.enidosauria; Squamata; Scleroglossa; Scincomorpha;
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05-JUL-2004 (TrEMBLrel. 27,
05-JUL-2004 (TrEMBLrel. 27,
Glyceraldehyde-3-phosphate d
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; I
Archosauria; Aves; Neognathae; Gruiformes; Rallidae;
NCBI_TaxID=156758;
                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.

Bolman G., Phillips B.;

Uniman G., Phillips B.;

"Single copy nuclear DNA markers characterized for comparative with the second state of the seco
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Scincidae; Carlia.
NCBI_TaxID=260893;
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Auk 118:248-255(2001).
EMBL; AF307898; AAK43537.1;
EGO; GO:0016301; F:kinase act
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nilarity 44.4%;
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dehydrogenase (Fragment)
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2; Mismatches 3;
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Pred. No. 1.6e+06;
1; Mismatches 1
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25-OCT-2004 (TrEMBLrel. 28, Last sequence update)
25-OCT-2004 (TrEMBLrel. 28, Last annotation update)
Clyceraldehyde-3-phosphate dehydrogenase (Fragment).
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Chlamydomonas reinhardtii.
Eukaryota; Viridiplantae; Chlorophyta; Chlorophyceae; Volvocales;
Chlamydomonadaceae; Chlamydomonas.
                                                                                                                                                                                                                                                                                                                                                         EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN=CC-2290;
MEDLINE=22570934; PubMed=12684385; DOI=10.1128/EC.2.2.362-379.2003;
Kathir P., LaVoie M., Brazelton W.J., Haas N.A., Lefebvre P.A.,
Silflow C.D.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
PubMed=15283860;
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Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Name=NAPDH;
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Phylogenetic relationships of typical antbirds (Tham
rest of incongruence based on Bayes factors.";
3MC Evol. Biol. 4:23-23(2004).
SMBL; AY677056; AAT96981.1; -.
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16-OCT-2001
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-!- SUBCELLULAR LOCATION: Secreted.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea;
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Phylogenetic relationships of typic
test of incongruence based on Bayes
BMC Evol. Biol. 4:23-23(2004).
BMBL; AY677047; AAT96972.1; -.
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                                                                                                                                                                                                                                                                                                          Amidation; Amphibian defense
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Simmaco M., Mignogna G., Canofeni
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                                                                                                                                                                                                                                                                          Direct protein sequencing.
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                                                                                                                                                                                                                                                                                                                                        Brevinin subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       J. Biochem. 242:788-792(1996)
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Neognathae; Passeriformes; Thamnophilidae;
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Last
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Pred. No.
                                                                                                                                     Score 21;
Pred. No.
                                                                                                                                                                                                                       Leucine amide.
9EBDCB1FAFF7C325 CRC64;
                                                                                                                                                                                                                                                                                                          peptide; Antibiotic;
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                                                                                                                                                                                                                                                                                                                                                               frog
                                                                                                             Mismatches
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(Thamnophilidae)
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Ranidae; Rana
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RESULT 13
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AC Q9N2C
DT 01-0C
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DE Indo]
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Matches 3
Q9N2C0
Q9N2C0;
C9N2C0;
C1-CCT-2000 (Trem)
C1-CCT-2000 (Trem)
C1-JUN-2003 (Trem)
C1ndolethylamine i
                                                                                                                                                                                         Q9N2B9 PRELIMINAKY; c...,
Q9N2B9;
Q1-CCT-2000 (TrEMBLrel. 15, Created)
Q1-CCT-2000 (TrEMBLrel. 15, Last sequence update)
Q1-JUN-2003 (TrEMBLrel. 24, Last annotation update)
Q1-JUN-2003 (TrEMBLrel. 24, Last annotation update)
                                                                                                                                                                                                                                                                                           Name=INMT;
Gorilla gorilla (gorilla).
Gorilla gorilla (gorilla).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primatee;
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SEQUENCE
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01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-UN-2003 (TrEMBLrel. 24, Last annotation updat
Indolethylamine N-methyltransferase (Fragment).
Name=INMT;
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Q9N2B8;
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Submitted (APR-2000) to the EMBL/GenBank/DDBJ
EMBL; AB041365; BAA94454.1; -.
GO; GO:0008168; F:methyltransferase activity;
GO; GO:0016740; F:transferase activity; IEA.
                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                       NCBI_TaxID=9593;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Pongo.
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(TrEMBLrel. 15, Created)
(TrEMBLrel. 15, Last sequence update)
(TrEMBLrel. 24, Last annotation updat
nine N-methyltransferase (Fragment).
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75.0%;
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Pred. No. 2.9e
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Pred.
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RESULT 15
Q654R
ID Q654R
AC Q654R
AC Q654R
AC J5-JU
DT 05-JU
DT 05-JU
DT Alpha
OS Leisa
OC Eukar
OX NCBI
RN [1]
RN [1]
RP SEQUE
RC STRAI
RA PUTGAY
RL Submi
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Best Local
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Q6S4R5;
05-JUL-2004 (TrEMBLrel. 27,
05-JUL-2004 (TrEMBLrel. 27,
05-JUL-2004 (TrEMBLrel. 27,
Alpha tubulin (Fragment).
                                                   Leishmania chagasi.
Eukaryota; Euglenozoa; Kinetoplastida;
NCBI_TaxID=44271;
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Q7T862;
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SEQUENCE FROM N.A.
STRAIN=MHOM/BR/00/1669;
Purdy J.E., Wilson M.E.;
Submitted (NOV-2003) to
                                                                                                                                                                                                                                                                                                    NON_TER
                                                                                                                                                                                                                                                                                                                        MEDLINE=22768205; PubMed=12885900; DOI=10.1128/JVI.77.16.8812-8818.2003; OGldberg T.L., Coleman D.A., Grant E.C., Inendino "Strain variation in an emerging iridovirus of war J. Virol. 77:8812-8818(2003).
                                                                                                                                                                                                                                                                                                                                                                                                                                               01-OCT-2003 (TremBLrel.
01-OCT-2003 (TremBLrel.
01-OCT-2003 (TremBLrel.
NTPase I (Fragment).
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Submitted (APR-2000) to the EMBL/GenBank/DDBJ
EMBL; AB041363; BAA94452.1; -
GO; GO:0008168; F:methyltransferase activity;
GO; GO:0016740; F:transferase activity; IEA.
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Pan troglodytes (Chimpanzee).
Pan troglodytes (Chimpanzee).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Pan.
                                                                                                                                                                                                                                                                                         SEQUENCE
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Viruses; dsDNA viruses, no
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  EMBL/GenBank/DDBJ
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Pred. No. 2.9e+04;
1; Mismatches 3
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